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Hodnocení rentability společnosti Boeing

Profitability Assessment of Boeing Company

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1. Introduction
2. Description of the Financial Analysis Methodology
3. Assessment of Financial Position
4. Profitability Assessment
5. Conclusion

Bibliography
List of Abbreviations
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References:

REES, Bill. *Financial analysis*. 2nd. ed. Harlow: Prentice Hall, 1995. 390 p. ISBN 0-13-288283-3.
ROBINSON, T. R., H. van GREUNING, E. HENRY and M. A. BROIHAHN. *International financial statement analysis*. Hoboken: Wiley, 2009. 828 p. ISBN 978-0-470-28766-8.
ROSS, S. A., R. W. WESTERFIELD and B. D. JORDAN. *Fundamentals of corporate finance*. New York: McGraw-Hill/Irwin, 2010. 882 p. ISBN 978-0-07-724612-9.

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The Declaration

Herewith I declare that I elaborated the entire thesis, including all annexes, independently.

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Contents

1. Introduction

As far as we know, the Boeing airplane company is one of the biggest company in the world and it is famous for all kinds of planes. Every year, a lot of planes are produced by Boeing and various items about plane will bring a big amount of profits. But do you know the basic financial position of this company? Do you know what the manager should do to help Boeing operate well? From this thesis, you can know basic situation of company and recognize disadvantages about company, then you will be able to make your move to improve company as a manager.

The aim of this thesis is to analyze profitability of Boeing. According to financial analysis, effect of some items and activities in company by comparing with its competitor will be shown and we will give some suggestions which can make company better.

In chapter 2, financial statements are introduced and let us know how to use them in our analysis in the first place. Then, three methods of analysis are introduced: common-size analysis, financial ratios analysis and pyramidal decomposition will help us analyze financial situation of company.

In chapter 3, we analyze Boeing by common-size analysis. Actually, every manager will care about that because he can adjust structure of assets and know what he should do to improve company.

In chapter 4, financial ratios and pyramidal decomposition are used to analyze effect of some items in Boeing, activities which make company better or worse over time and management of company by comparing with its competitor.

In chapter 5, after we finish our analysis, conclusion and some suggestions are discovered. Generally, company has to consider about its profits and costs, and more deeply, company will make their financial situation better.

2. Financial Analysis Methodology

In this part of the thesis, we will comprehend what financial statement data represents. Then, every important data from statements will be introduced by data source. Finally, we will introduce important methods includes the common-size analysis, financial ratios analysis and pyramidal decomposition analysis. All of them will be used in the following content part.

2.1 Financial analysis

Financial analysis and reporting based on accounting data and other relevant information as the basis, using a series of specialized analysis techniques and methods, enterprises and other economic organizations of the past and present related financing activities, investing activities, operations, profitability distribution activities operating capacity, solvency and growth, such as the ability to analyze and evaluate the situation of economic management activities. It is designed for corporate investors, creditors, business operators and other interested organizations or individuals to understand the business in the past, evaluate the corporate status quo, to make the right decisions to predict the company's future economic applications provide accurate information or discipline based.

The source of information can be provided by three aspects: financial data from balance sheet, income statement and cash flow statement; market data from the securities price, industry statistics and so on; economic data come from GDP, GNP, PPI, CPI and so on.

2.2 Financial statements

In order to analyze the financial position of a company, we should know some basic data of company, and they are shown in the form of financial statements. It includes three parts: the balance sheet, income statement and the cash flow statement.

2.2.1 Balance sheet

According to the balance sheet assets , liabilities , owner's equity (or shareholders' equity , the same below) between articulation , according to certain criteria and order of classification, the assets, liabilities and owners' equity companies must be appropriate date of

each project arrangement . It reflects the corporate assets, liabilities, the overall size and structure of the owner's equity. That is, the number of assets; assets, current assets, fixed assets, how much each; current assets in money funds many, accounts receivable number, stock number, and so on.

It can be described by a simple formula:

$$TA=TL+E. \tag{2.1}$$

TA is total assets, TL is total liabilities and E is owner's equity.

In the balance sheet, companies often by assets, liabilities, equity classification breakdown reflected. In other words, the size of the liquidity assets listed, divided into specific current assets, long-term investments, fixed assets, intangible assets and other assets. Liabilities are presented according to the size of the liquidity, divided into specific current liabilities, long-term debt and other; press owners' equity paid-up capital, capital reserves, surplus reserves, undistributed profits, such as item by item.

Table 2.1 The Simple Structure of Balance Sheet

Balance sheet			
Assets		Liabilities & Equity	
Cash	A	Account Payables	K
Account Receivables	B	Accrued Expenses	L
Inventory	C	Current Portion of Debt	M
Prepaid Expenses	D	Income Taxes Payables	N
Current Assets	A+B+C+D=E	Current liabilities	K+L+M+N=O
Other Assets	F	Long-term Debt	P
Gross Fixed Assets	G	Capital Stock	Q
Accumulated Depreciation	H	Retained Earnings	R
Net Fixed Assets	G-H=I	Shareholder's Equity	Q+R=S
Total Assets	E+F+I=J	Total Liabilities & Shareholder's Equity	O+P+S=T

Current assets refer to the short-term assets can be converted into cash assets in a year. Current debt refers to debt must be repaid within a year. Other assets can be defined an asset

which do not touch like intangible assets. Long-term debt refers to the debt payback period more than 1 year. Shareholder's equity generally represents the value of the company owners.

2.2.2 Income statement

Income Statement is to reflect the company in a certain period (a certain period) realized profit (or loss occurs) of the financial statements. It is a dynamic report. Income Statement for the report to provide readers make sound economic decisions needed information can be used to analyze the reasons for the increase or decrease of profits, the company's operating costs, making investment value evaluation. It is the second important financial statement.

It can be expressed a formula:

$$\text{Sales - Costs \& Expenses = Income.} \tag{2.2}$$

Table 2.2 The Simple Structure of Income Statement

Income statement	
Net Sales or Revenue	1
Cost of Goods Sold	2
Gross Profit	1-2=3
Sales & Marketing	4
Research & Development	5
General & Administrative	6
Operating Expenses	4+5+6=7
Income From Operation	3-7=8
Interest Income	9
Income Taxes	10
Net Income	9-10=11

The table easily shows their relationship. But we will introduce some important items from this table. Firstly, gross profit refers to operating profit and cost of goods sold can be

realized some costs occur in a period which goods are sold. When company produces goods, they need material and labor to finish products. Then, they finish their products, they need to sell them and make some advertisements. All of them are from cost of goods sold.

There are some differences between cost of goods sold and operating expenses. Although they are indicators to describe how company spends its money, costs refer to expenditure from production process and expenses can be every fee except production.

Net sales and net income also are different items. Net sales refer to the revenue of the company and net income refers to the profit of the company.

2.2.3 Cash flow statement

Generally, we can call inflow if the company received money in a period. On the contrary, we call outflow if the company spent money in a period. Their relationship can be expressed a formula:

$$\text{Begin} + \text{Inflow} - \text{Outflow} = \text{End}. \tag{2.3}$$

Cash inflows have two main ways: one is from operating activities, like receiving payment for goods; another is from financing activities, like taking a loan or issuing stocks. Cash outflows have four major ways: operating activities like paying factory rent; financial activities like paying dividends, taxes, interests and making investment in fixed assets.

Table 2.3 The Simple Structure of Cash Flow Statement

Cash Flow Statement	
Beginning Cash Balance	a
Cash Receipts	b
Cash Disbursements	c
Cash From Operations	b-c=d
Fixed Asset Purchase	e
Net Borrowing	f
Income Taxes Paid	g
Sale of Stock	h
Ending Cash Balance	a+d-e+f-g+h=i

Business activities can be called operating activities which have relationship with production. Cash receipts is activity that company receive money from customers and cash disbursements is the activity that company pays for its materials, rent or goods from manufactures. Fixed asset purchase refers to a behavior that company buy property like land, machines and so on. Net borrowing refers to how much money can be on company's hand. Sale of stock is the activity that company sells its stocks to investors; it will increase the amount of cash on hand.

2.3 Common-size analysis

If we examine financial statements over time for a company, it is fairly difficult to spot changes in relationships because the scale of the company's accounts changes over time due to inflation, growth, and acquisitions and divestiture. It is also challenging to compare financial statements of companies of different sizes. A technique that we can use to control for the scale effect is Common-size Analysis. Common-size analysis is the restatement of financial statement items using a common denominator or reference item that allows us to identify trends and major differences.

There are two types of it, one is horizontal common-size analysis, it is the analysis of the evolution of financial statements data over the time or their changes with respect to a given period as a benchmark. Another is vertical common-size analysis; it is the analysis of the changes in the proportions of selected benchmarks (total revenue, total assets, total liabilities and so on).

Vertical common-size analysis is used to measure the proportion of each item to benchmark during a specific period. We compare the results from different periods to find out the changes in the proportion of each item.

The most important item in vertical common-size analysis is the benchmark. For the assets part of balance sheet, we can choose total assets as benchmark, and each item will be written as a percentage of total assets. For the rest part of balance sheet, we can choose the sum of equity and liabilities as benchmark. If we want to study the case deeper, we can choose a specific item as benchmark and study the proportion of its inclusive items. For example, we can choose current assets as benchmark and research the proportion of cash,

inventory, account receivables and prepaid expenses. For income statement, we often choose total revenue as benchmark. We usually choose the all kinds of costs, earnings before interest and tax, earnings before tax, net profit, operating profit and so on to make a research when we use vertical common-size analysis to study income statement.

Horizontal common-size analysis is used to compare each item in financial statements with the results of benchmark; the benchmark of horizontal common-size analysis is a specific period. We can choose a fixed period as benchmark, like we choose the results in 2008 as benchmark; and we can use every year's results to compare with results in 2008. Or we can choose every year's previous year as benchmark, for example, the benchmark of 2008 is 2007, the benchmark of 2009 is 2008.

2.4 Financial Ratio analysis

Financial ratio analysis is the use of financial accounting and other information to assess a company's financial performance and financial condition. Specially, financial ratio analysis uses comparisons of financial data in the form of ratios to assess a company's financial health and profitability.

There are hundreds of ratio can be formed using available financial data. The same time, it faces two problems. One is determining which ratios are the most appropriate for the company in question. Another is selecting ratios that are the most appropriate for the purpose at hand.

Financial ratios are calculated using a company's financial statement and market data, yet the interpretation of these ratios should also consider company-specific events and the general economic cycle. We can classify ratios into several types, based on the dimension of the company's permanence and condition:

2.4.1 Activity ratios

What are activity ratios? There two different explanation. Activity ratios are that measure a firm's ability to convert different accounts within its balance sheets into cash or sales. Activity ratios are used to measure the relative efficiency of a firm based on its use of its assets, leverage or other such balance sheet items. These ratios are important in determining whether a company's management is doing a good enough job of generating revenues, cash,

etc. from its resources. But for investors, it is very different. Companies will typically try to turn their production into cash or sales as fast as possible because this will generally lead to higher revenues. Such ratios are frequently used when performing fundamental analysis on different companies. The total assets turnover ratio and inventory turnover ratio are two popular examples of activity ratios used widely across most industries.

We use activity ratios to evaluate a company's effectiveness in putting its asset investment to good use. We often want to evaluate how well a company does in putting its investment to use. Activity ratios are usually used to measure them. They also can help us evaluate the benefits produced by specific assets, such as inventory or accounts receivable. Or they can be used to evaluate the benefits produced by all of a company's assets collectively. There are two types of activity measures: turnover ratios and number of days. With turnover ratios, we measure how many times during the period the company has effectively used its assets to produce a benefit. With number of days measures, we arrive at an approximation of how long it takes to recoup the company's investment. As you will see, there is a direct relationship between turnover ratios and the number of days.

The inventory turnover ratio is an efficiency ratio that shows how effectively inventory is managed by comparing cost of goods sold with average inventory for a period. This measures how many times average inventory is "turned" or sold during a period. In other words, it measures how many times a company sold its total average inventory dollar amount during the year. A company with $1,000 of average inventory and sales of $10,000 effectively sold its 10 times over.

This ratio is important because total turnover depends on two main components of performance. The first component is stock purchasing. If larger amounts of inventory are purchased during the year, the company will have to sell greater amounts of inventory to improve its turnover. If the company can't sell these greater amounts of inventory, it will incur storage costs and other holding costs.

The second component is sales. Sales have to match inventory purchases otherwise the inventory will not turn effectively. That's why the purchasing and sales departments must be in tune with each other.

Inventory turnover is the ratio of cost of goods sold to inventory. This ratio is an indication of the resources tied up in inventory relative to the speed at which inventory is sold during the period. The formula is

$$IT = \frac{TR}{I}. \tag{2.4}$$

Where IT is inventory turnover, TR is total revenue and I is inventory.

Inventory turnover is a measure of how efficiently a company can control its merchandise, so it is important to have a high turn. This shows the company does not overspend by buying too much inventory and wastes resources by storing non-salable inventory. It also shows that the company can effectively sell the inventory it buys.

This measurement also shows investors how liquid a company's inventory is. Think about it. Inventory is one of the biggest assets a retailer reports on its balance sheet. If this inventory can't be sold, it is worthless to the company. This measurement shows how easily a company can turn its inventory into cash.

Creditors are particularly interested in this because inventory is often put up as collateral for loans. Banks want to know that this inventory will be easy to sell.

Inventory turns vary with industry. For instance, the apparel industry will have higher turns than the exotic car industry.

What is account receivable? It's an efficiency ratio or activity ratio that measures how many times a business can turn its accounts receivable into cash during a period. In other words, the accounts receivable turnover ratio measures how many times a business can collect its average accounts receivable during the year.

A turn refers to each time a company collects its average receivables. If a company had $20,000 of average receivables during the year and collected $40,000 of receivables during the year, the company would have turned its accounts receivable twice because it collected twice the amount of average receivables.

This ratio shows how efficient a company is at collecting its credit sales from customers. Some companies collect their receivables from customers in 90 days while other takes up to 6 months to collect from customers.

In some ways the receivables turnover ratio can be viewed as a liquidity ratio as well. Companies are more liquid the faster they can convert their receivables into cash.

Receivables turnover is the ratio of total revenue to average accounts receivable. This ratio provides an indication of the resources tied up in accounts receivable and the speed at which receivables are collected during the period. The formula is

$$RT=\frac{TR}{R}. \tag{2.5}$$

Where RT is receivables turnover, TR is total revenue and R is receivables.

Since the receivables turnover ratio measures a business' ability to efficiently collect its receivables, it only makes sense that a higher ratio would be more favorable. Higher ratios mean that companies are collecting their receivables more frequently throughout the year. For example, a ratio of 2 means that the company collected its average receivables twice during the year. In other words, this company is collecting is money from customers every six months.

Higher efficiency is favorable from a cash flow standpoint as well. If a company can collect cash from customers sooner, it will be able to use that cash to pay bills and other obligations sooner.

Accounts receivable turnover also is and indication of the quality of credit sales and receivables. A company with a higher ratio shows that credit sales are more likely to be collected than a company with a lower ratio. Since accounts receivable are often posted as collateral for loans, quality of receivables is important.

The asset turnover ratio is an efficiency ratio that measures a company's ability to generate sales from its assets by comparing net sales with average total assets. In other words, this ratio shows how efficiently a company can use its assets to generate sales.

The total asset turnover ratio calculates net sales as a percentage of assets to show how many sales are generated from each dollar of company assets. For instance, a ratio of .5 means that each dollar of assets generates 50 cents of sales.

Total asset turnover is the ratio of revenues to total assets. This ratio indicates the extent to which the investment in total assets results in revenues. The formula is

$$TAT=\frac{TR}{TA}. \tag{2.6}$$

Where TAT is total asset turnover, TR is total revenue and TA is total assets.

This ratio measures how efficiently a firm uses its assets to generate sales, so a higher ratio is always more favorable. Higher turnover ratios mean the company is using its assets more efficiently. Lower ratios mean that the company isn't using its assets efficiently and most likely have management or production problems.

For instance, a ratio of 1 means that the net sales of a company equals the average total assets for the year. In other words, the company is generating 1 dollar of sales for every dollar invested in assets.

Like with most ratios, the asset turnover ratio is based on industry standards. Some industries use assets more efficiently than others. To get a true sense of how well a company's assets are being used, it must be compared to other companies in its industry.

The total asset turnover ratio is a general efficiency ratio that measures how efficiently a company uses all of its assets. This gives investors and creditors an idea of how a company is managed and uses its assets to produce products and sales.

Sometimes investors also want to see how companies use more specific assets like fixed assets and current assets. The fixed asset turnover ratio and the working capital ratio are turnover ratios similar to the asset turnover ratios that are often used to calculate the efficiency of these asset classes.

Working capital is the difference between current assets and current liabilities. The formula is

$$WCT=\frac{TR}{WC}. \tag{2.7}$$

Where WCT is working capital turnover, TR is total revenue and WC is working capital.

We compute the number of days of inventory by calculating the ratio of the amount of inventory on hand to the average day's cost of goods sold. The formula is

$$NI=\frac{I}{AC}. \tag{2.8}$$

Where NI is number of days of inventory, I is inventory and AC is average day's cost of goods sold.

$$NR=\frac{R}{AR}. \tag{2.9}$$

$$NP=\frac{P}{AP}. \tag{2.10}$$

Where NR is number of days of receivables and NP is number of days of payables, R is account receivable and P is account payable, AR is average day's revenue and AP is average day's purchases.

2.4.2 Liquidity ratios

Liquidity ratios are the ratios that measure the ability of a company to meet its short term debt obligations. These ratios measure the ability of a company to pay off its short-term liabilities when they fall due.

The liquidity ratios are a result of dividing cash and other liquid assets by the short term borrowings and current liabilities. They show the number of times the short term debt obligations are covered by the cash and liquid assets. If the value is greater than 1, it means the short term obligations are fully covered.

Generally, the higher the liquidity ratios are, the higher the margin of safety that the company posses to meet its current liabilities. Liquidity ratios greater than 1 indicate that the company is in good financial health and it is less likely fall into financial difficulties.

Most common examples of liquidity ratios include current ratio, acid test ratio (also known as quick ratio), cash ratio and working capital ratio. Different assets are considered to be relevant by different analysts. Some analysts consider only the cash and cash equivalents as relevant assets because they are most likely to be used to meet short term liabilities in an emergency. Some analysts consider the debtors and trade receivables as relevant assets in addition to cash and cash equivalents. The value of inventory is also considered relevant asset for calculations of liquidity ratios by some analysts.

The concept of cash cycle is also important for better understanding of liquidity ratios. The cash continuously cycles through the operations of a company. A company's cash is

usually tied up in the finished goods, the raw materials, and trade debtors. It is not until the inventory is sold, sales invoices raised, and the debtors' make payments that the company receives cash. The cash tied up in the cash cycle is known as working capital, and liquidity ratios try to measure the balance between current assets and current liabilities.

A company must possess the ability to release cash from cash cycle to meet its financial obligations when the creditors seek payment. In other words, a company should posses the ability to translate its short term assets into cash. The liquidity ratios attempt to measure this ability of a company.

We use liquidity ratios to measure a company's ability to meet its short-term, immediate obligations. In the context of financial analysis, we refer to liquidity as the company's ability to satisfy its short-term obligation using assets that are most readily converted into cash. There are three of ratios we have to pay attention.

The current ratio is the ratio of current assets to current liabilities. This ratio is a measure of a company's ability to satisfy its current liabilities with its current assets. The formula is

$$CR=\frac{CA}{CL}. \tag{2.11}$$

Where CR is current ratio, CA is current assets and CL is current liabilities.

The quick ratio is a more stringent measure of liquidity. This ratio indicates a company's ability to satisfy current liabilities with its most liquid assets.

$$QR=\frac{(C+SMI+R)}{CL}. \tag{2.12}$$

Where QR is quick ratio, C is cash, SMI is short-term marketable investments, R is receivables and CL is current liabilities.

In order to judge a good quick ratio, there is a formula:

$$P=\frac{QR(n-1)}{QR(n)}. \tag{2.13}$$

Where P is proportion, QR is quick ratio and n is period.

The cash ratio is the most stringent measure of liquidity.

$$CR=\frac{(C+SMI)}{CL}\ . \tag{2.14}$$

Where CR is cash ratio, C is cash, SMI is short-term marketable investments and CL is current liabilities.

2.4.3 Solvency ratios

Solvency ratios, also called leverage ratios, measure a company's ability to sustain operations indefinitely by comparing debt levels with equity, assets, and earnings. In other words, solvency ratios identify going concern issues and a firm's ability to pay its bills in the long term. Many people confuse solvency ratios with liquidity ratios. Although they both measure the ability of a company to pay off its obligations, solvency ratios focus more on the long-term sustainability of a company instead of the current liability payments.

Solvency ratios show a company's ability to make payments and pay off its long-term obligations to creditors, bondholders, and banks. Better solvency ratios indicate a more creditworthy and financially sound company in the long-term.

We look at a company's solvency ratios to gauge its ability to meet its debt obligations. Solvency ratios are used to measure company's ability to meets its long-term obligations, sometimes they are called financial leverage ratio(they measure how the company is financed).

Debt ratio is a solvency ratio that measures a firm's total liabilities as a percentage of its total assets. In a sense, the debt ratio shows a company's ability to pay off its liabilities with its assets. In other words, this shows how many assets the company must sell in order to pay off all of its liabilities.

This ratio measures the financial leverage of a company. Companies with higher levels of liabilities compared with assets are considered highly leveraged and more risky for lenders.

This helps investors and creditors analysis the overall debt burden on the company as well as the firm's ability to pay off the debt in future, uncertain economic times.

The debt ratio is the ratio of the company's assets is financed by debt. The formula is

$$DR=\frac{TD}{TA}\ . \tag{2.15}$$

Where DR is debt ratio, TD is total debt or total liabilities and TA is total assets.

The debt ratio is shown in decimal format because it calculates total liabilities as a percentage of total assets. As with many solvency ratios, a lower ratio is more favorable than a higher ratio.

A lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has lower overall debt. Each industry has its own benchmarks for debt, but .5 is reasonable ratio.

A debt ratio of .5 is often considered to be less risky. This means that the company has twice as many assets as liabilities. Or said a different way, this company's liabilities are only 50 percent of its total assets. Essentially, only its creditors own half of the company's assets and the shareholders own the remainder of the assets.

A ratio of 1 means that total liabilities equals total assets. In other words, the company would have to sell off all of its assets in order to pay off its liabilities. Obviously, this is a highly leverage firm. Once its assets are sold off, the business no longer can operate.

The debt ratio is a fundamental solvency ratio because creditors are always concerned about being repaid. When companies borrow more money, their ratio increases creditors will no longer loan them money. Companies with higher debt ratios are better off looking to equity financing to grow their operations.

The debt to equity ratio is a financial, liquidity ratio that compares a company's total debt to total equity. The debt to equity ratio shows the percentage of company financing that comes from creditors and investors. A higher debt to equity ratio indicates that more creditor financing (bank loans) is used than investor financing (shareholders).

The debt-to-equity ratio is similar to debt ratio; it relates the amount of the company's debt relative to company's equity. The formula is

$$DER=\frac{TD}{E}. \tag{2.16}$$

Where DER is debt-to-equity ratio, TD is total debt or total liabilities and E is equity.

Each industry has different debt to equity ratio benchmarks, as some industries tend to use more debt financing than others. A debt ratio of .5 means that there are half as many liabilities than there is equity. In other words, the assets of the company are funded 2-to-1 by

investors to creditors. This means that investors own 66.6 cents of every dollar of company assets while creditors only own 33.3 cents on the dollar.

A debt to equity ratio of 1 would mean that investors and creditors have an equal stake in the business assets.

A lower debt to equity ratio usually implies a more financially stable business. Companies with a higher debt to equity ratio are considered more risky to creditors and investors than companies with a lower ratio. Unlike equity financing, debt must be repaid to the lender. Since debt financing also requires debt servicing or regular interest payments, debt can be a far more expensive form of financing than equity financing. Companies leveraging large amounts of debt might not be able to make the payments.

Creditors view a higher debt to equity ratio as risky because it shows that the investors haven't funded the operations as much as creditors have. In other words, investors don't have as much skin in the game as the creditors do. This could mean that investors don't want to fund the business operations because the company isn't performing well. Lack of performance might also be the reason why the company is seeking out extra debt financing.

The long-term debt-to-equity ratio is the proportion of the company's assets that is financed with long-term debt. The formula is

$$LDE=\frac{LD}{TA}\,. \tag{2.17}$$

Where LDE is long-term debt-to-equity ratio, LD is long-term debt and TA is total assets.

The equity ratio is an investment leverage or solvency ratio that measures the amount of assets that are financed by owners' investments by comparing the total equity in the company to the total assets.

The equity ratio highlights two important financial concepts of a solvent and sustainable business. The first component shows how much of the total company assets are owned outright by the investors. In other words, after all of the liabilities are paid off, the investors will end up with the remaining assets.

The second component inversely shows how leveraged the company is with debt. The equity ratio measures how much of a firm's assets were financed by investors. In other words,

this is the investors' stake in the company. This is what they are on the hook for. The inverse of this calculation shows the amount of assets that were financed by debt. Companies with higher equity ratios show new investors and creditors that investors believe in the company and are willing to finance it with their investments.

The financial leverage is called the equity multiplier. The formula is

$$FL=\frac{TA}{TE}. \tag{2.18}$$

Where FL is financial leverage, TA is total assets and TE is total shareholders' equity.

In general, higher equity ratios are typically favorable for companies. This is usually the case for several reasons. Higher investment levels by shareholders shows potential shareholders that the company is worth investing in since so many investors are willing to finance the company. A higher ratio also shows potential creditors that the company is more sustainable and less risky to lend future loans.

Equity financing in general is much cheaper than debt financing because of the interest expenses related to debt financing. Companies with higher equity ratios should have less financing and debt service costs than companies with lower ratios.

As with all ratios, they are contingent on the industry. Exact ratio performance depends on industry standards and benchmarks.

The interest coverage is the extent to which the company's operating profit is able to meet current interest payments. The formula is

$$IC=\frac{EBIT}{IP}=\frac{OP}{IP}. \tag{2.19}$$

Where IC is interest coverage, EBIT is earning before interest and tax, IP is interest paid and OP is operating profit.

There are two ratios to refer to special situation. The formula is

$$FCCR=\frac{(EBIT+LP)}{(IP+LP)}. \tag{2.20}$$

$$CFCR = \frac{(CFO + IP + TP)}{IP} . \quad (2.21)$$

Where FCCR is fixed-charge-coverage ratio and CFCR is cash flow coverage ratio, EBIT is earning before interest and tax, CFO is cash flow from operations, LP is lease payments, IP is interest paid and TP is tax payments.

2.4.4 Profitability ratios

We use profitability ratios to analyze a company's ability to manage its expenses to generate profits from its sales. We can divide it into three parts, such as margin, return on investment ratio and DuPont analysis.

We use margin to compare components of income with revenues-calculations that we saw earlier with the vertical common-size analysis of the income statement. These ratios give us an idea of what makes up company's income and are usually expressed as a portion of each dollar of revenues. The profit margin ratios discussed here differ only in the numerator. It's in the numerators that represent and thus evaluate performance for different aspects of the business.

Gross profit margin ratio is a profitability ratio that compares the gross margin of a business to the net sales. This ratio measures how profitable a company sells its inventory or merchandise. In other words, the gross profit ratio is essentially the percentage markup on merchandise from its cost. This is the pure profit from the sale of inventory that can go to paying operating expenses.

Gross profit margin ratio is often confused with the profit margin ratio, but the two ratios are completely different. Gross margin ratio only considers the cost of goods sold in its calculation because it measures the profitability of selling inventory. Profit margin ratio on the other hand considers other expenses.

The gross profit margin is the ratio of gross profit to revenues. Gross profit is the difference between revenues and the cost of goods sold. We use this ratio to see how much of every dollar of revenues is left after the cost of goods sold:

$$GPM = \frac{GP}{TR} . \quad (2.22)$$

Where GPM is gross profit margin, GP is gross profit and TR is total revenue.

Gross margin ratio is a profitability ratio that measures how profitable a company can sell its inventory. It only makes sense that higher ratios are more favorable. Higher ratios mean the company is selling their inventory at a higher profit percentage.

High ratios can typically be achieved by two ways. One way is to buy inventory very cheap. If retailers can get a big purchase discount when they buy their inventory from the manufacturer or wholesaler, their gross margin will be higher because their costs are down.

The second way retailers can achieve a high ratio is by marking their goods up higher. This obviously has to be done competitively otherwise goods will be too expensive and customers will shop elsewhere.

A company with a high gross profit margin ratio means that the company will have more money to pay operating expenses like salaries, utilities, and rent. Since this ratio measures the profits from selling inventory, it also measures the percentage of sales that can be used to help fund other parts of the business.

The operating profit margin is the ratio of operating income to revenues. This ratio indicates how much of each dollar of revenues is left over after both cost of goods sold and operating expenses are considered:

$$OPM=\frac{OI}{TR}\ . \tag{2.23}$$

Where OPM is operating profit margin, OI is operating income and TR is total revenue.

The net profit margin ratio, also called the return on sales ratio or gross profit ratio, is a profitability ratio that measures the amount of net income earned with each dollar of sales generated by comparing the net income and net sales of a company. In other words, the profit margin ratio shows what percentage of sales are left over after all expenses are paid by the business.

Creditors and investors use this ratio to measure how effectively a company can convert sales into net income. Investors want to make sure profits are high enough to distribute dividends while creditors want to make sure the company has enough profits to pay back its loans. In other words, outside users want to know that the company is running efficiently. An

extremely low profit margin would indicate the expenses are too high and the management needs to budget and cut expenses.

The return on sales ratio is often used by internal management to set performance goals for the future.

The net profit margin is the ratio of net income to revenues and indicates how much of each dollar of revenues is left over after all costs and expenses:

$$NPM=\frac{NI}{TR}\ . \tag{2.24}$$

Where NPM is net profit margin, NI is net income and TR is total revenue.

The profit margin ratio directly measures what percentage of sales is made up of net income. In other words, it measures how much profits are produced at a certain level of sales.

This ratio also indirectly measures how well a company manages its expenses relative to its net sales. That is why companies strive to achieve higher ratios. They can do this by either generating more revenues why keeping expenses constant or keep revenues constant and lower expenses.

Since most of the time generating additional revenues is much more difficult than cutting expenses, managers generally tend to reduce spending budgets to improve their profit ratio.

Like most profitability ratios, this ratio is best used to compare like sized companies in the same industry. This ratio is also effective for measuring past performance of a company.

A further refinement in margins is to look at the company's profit margin before tax, or pretax profit margin, which allows us to isolate the effects of taxes on the company's profitability:

$$PPM=\frac{EBT}{TR}\ . \tag{2.25}$$

Where PPM is pretax profit margin, EBT is earning before tax and TR is total revenues.

We use return-on-investment ratios, also commonly called return-on-assets ratios, to compare benefit generated from investments. We represent the benefit in the numerator and the resources affecting that benefit, such as the total assets of the company in the denominator.

The operating return on assets is the ratio of operating earnings to assets, this ratio is a measure of the operating income resulting from the company's investment in total assets and is useful in comparing companies that are in the same line of business:

$$OPOA=\frac{OI}{TA}. \tag{2.26}$$

Where OPOA is operating return on assets, OI is operating income and TA is total assets.

The return on assets ratio, often called the return on total assets, is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. In other words, the return on assets ratio or ROA measures how efficiently a company can manage its assets to produce profits during a period.

Since company assets' sole purpose is to generate revenues and produce profits, this ratio helps both management and investors see how well the company can convert its investments in assets into profits. You can look at ROA as a return on investment for the company since capital assets are often the biggest investment for most companies. In this case, the company invests money into capital assets and the return is measured in profits.

The return on assets is the ratio of net income to assets and indicates company's net profit generated per dollar invested in total assets, this ratio is a measure of what the company receives, as a whole, from the investment it has made in assets.

$$ROA=\frac{NI}{TA}. \tag{2.27}$$

Where ROA is return on assets, NI is net income and TA is total assets.

The return on assets ratio measures how effectively a company can earn a return on its investment in assets. In other words, ROA shows how efficiently a company can covert the money used to purchase assets into net income or profits.

Since all assets are either funded by equity or debt, some investors try to disregard the costs of acquiring the assets in the return calculation by adding back interest expense in the formula.

It only makes sense that a higher ratio is more favorable to investors because it shows that the company is more effectively managing its assets to produce greater amounts of net

income. A positive ROA ratio usually indicates an upward profit trend as well. ROA is most useful for comparing companies in the same industry as different industries use assets differently. For instance, construction companies use large, expensive equipment while software companies use computers and servers.

The return on equity ratio or ROE is a profitability ratio that measures the ability of a firm to generate profits from its shareholders investments in the company. In other words, the return on equity ratio shows how much profit each dollar of common stockholders' equity generates.

So a return on 1 means that every dollar of common stockholders' equity generates 1 dollar of net income. This is an important measurement for potential investors because they want to see how efficiently a company will use their money to generate net income.

ROE is also indicator of how effective management is at using equity financing to fund operations and grow the company.

The return on equity is more specifically directed to the return to shareholders and is the ratio of net income to shareholders' equity. The return shows the profit generated per dollar of shareholders' investment. The difference between the return-on-assets ratio and the return-on-equity ratio is the investment that is considered. The return-on-equity can be affected by the financial leverage of the company:

$$ROE=\frac{NI}{E}. \tag{2.28}$$

Where ROE is return on equity, NI is net income and E is average shareholders' equity.

Return on equity measures how efficiently a firm can use the money from shareholders to generate profits and grow the company. Unlike other return on investment ratios, ROE is a profitability ratio from the investor's point of view—not the company. In other words, this ratio calculates how much money is made based on the investors' investment in the company, not the company's investment in assets or something else.

That being said, investors want to see a high return on equity ratio because this indicates that the company is using its investors' funds effectively. Higher ratios are almost always better than lower ratios, but have to be compared to other companies' ratios in the industry.

Since every industry has different levels of investors and income, ROE can't be used to compare companies outside of their industries very effectively.

Many investors also choose to calculate the return on equity at the beginning of a period and the end of a period to see the change in return. This helps track a company's progress and ability to maintain a positive earnings trend.

2.4.5 Market ratios

Market value ratios evaluate the economic status of your company in the wider marketplace. Market value ratios include the earnings per share, price earnings ratio, the price/cash ratio, dividend yield, book value per share, market value per share, and the market/book ratio. Market value ratios give management an idea of what the firm's investors think of the firm's performance and future prospects. Market value ratios are pertinent to the publicly traded firm. If the rest of the company's ratios are good, then the market value ratios should reflect that and the stock price of the firm should be high. Market value ratios measure different ways of looking at the relative value of a company's stock.

Some ratios are called market ratios because they are based on financial and market data.

Earnings per share, also called net income per share, is a market prospect ratio that measures the amount of net income earned per share of stock outstanding. In other words, this is the amount of money each share of stock would receive if all of the profits were distributed to the outstanding shares at the end of the year.

Earnings per share are also a calculation that shows how profitable a company is on a shareholder basis. So a larger company's profits per share can be compared to smaller company's profits per share. Obviously, this calculation is heavily influenced on how many shares are outstanding. Thus, a larger company will have to split its earning amongst many more shares of stock compared to a smaller company.

Earnings per share are the amount of income earned during a period per share of common stock:

$$EPS=\frac{NIAS}{NCO}. \tag{2.29}$$

Where EPS is earning per share, NIAS is net income available to common shareholders and NCO is number of common shares outstanding.

Earnings per share are the same as any profitability or market prospect ratio. Higher earnings per share is always better than a lower ratio because this means the company is more profitable and the company has more profits to distribute to its shareholders.

Although many investors don't pay much attention to the EPS, a higher earnings per share ratio often makes the stock price of a company rise. Since so many things can manipulate this ratio, investors tend to look at it but don't let it influence their decisions drastically.

The price earnings ratio, often called the P/E ratio or price to earnings ratio, is a market prospect ratio that calculates the market value of a stock relative to its earnings by comparing the market price per share by the earnings per share. In other words, the price earnings ratio shows what the market is willing to pay for a stock based on its current earnings.

Investors often use this ratio to evaluate what a stock's fair market value should be by predicting future earnings per share. Companies with higher future earnings are usually expected to issue higher dividends or have appreciating stock in the future.

Obviously, fair market value of a stock is based on more than just predicted future earnings. Investor speculation and demand also help increase a share's price over time.

The PE ratio helps investors analyze how much they should pay for a stock based on its current earnings. This is why the price to earnings ratio is often called a price multiple or earnings multiple. Investors use this ratio to decide what multiple of earnings a share is worth. In other words, how many times earnings they are willing to pay.

The price-to-earnings ratio (P/E or PE ratio) is the ratio of the price per share of common stock to the earning per share:

$$PE=\frac{MP}{EPS}. \tag{2.30}$$

Where PE is price-to-earnings ratio, MP is market price per share and EPS is earning per share.

The price to earnings ratio indicates the expected price of a share based on its earnings. As a company's earnings per share being to rise, so does their market value per share. A company with a high P/E ratio usually indicated positive future performance and investors are willing to pay more for this company's shares.

A company with a lower ratio, on the other hand, is usually an indication of poor current and future performance. This could prove to be a poor investment.

In general a higher ratio means that investors anticipate higher performance and growth in the future. It also means that companies with losses have poor PE ratios.

An important thing to remember is that this ratio is only useful in comparing like companies in the same industry. Since this ratio is based on the earnings per share calculation, management can easily manipulate it with specific accounting techniques.

The dividend payout ratio measures the percentage of net income that is distributed to shareholders in the form of dividends during the year. In other words, this ratio shows the portion of profits the company decides to keep to fund operations and the portion of profits that is given to its shareholders.

Investors are particularly interested in the dividend payout ratio because they want to know if companies are paying out a reasonable portion of net income to investors. For instance, most start up companies and tech companies rarely give dividends at all. In fact, Apple, a company formed in the 1970s, just gave its first dividend to shareholders in 2012.

Conversely, some companies want to spur investors' interest so much that they are willing to pay out unreasonably high dividend percentages. Inventors can see that these dividend rates can't be sustained very long because the company will eventually need money for its operations.

The dividend payout ratio is the ratio of cash dividends paid to earnings for a period:

$$DPR=\frac{DPS}{NIA}. \tag{2.31}$$

Where DPR is dividend payout ratio, DPS is dividend paid to common shareholders and NIA is net income attributable to common shares.

Since investors want to see a steady stream of sustainable dividends from a company, the dividend payout ratio analysis is important. A consistent trend in this ratio is usually more important than a high or low ratio.

Since it is for companies to declare dividends and increase their ratio for one year, a single high ratio does not mean that much. Investors are mainly concerned with sustainable trends. For instance, investors can assume that a company that has a payout ratio of 20 percent for the last ten years will continue giving 20 percent of its profit to the shareholders.

Conversely, a company that has a downward trend of payouts is alarming to investors. For example, if a company's ratio has fallen a percentage each year for the last five years might indicate that the company can no longer afford to pay such high dividends. This could be an indication of poor operating performance.

Generally, more mature and stable companies tend to have a higher ratio than newer start up companies.

2.5 Pyramidal decompositions

Pyramidal decompositions are also called DuPont analysis. DuPont analysis was developed as a way to better understand return ratios and why they change over time. The bases for this approach are the linkages made through financial ratios between the balance sheet and the income statement. We can better understand a company's return over time or its returns in comparison with its competitors by breaking returns into their components. This approach began as an analysis of the elements in the return on assets and equity:

$$ROA=\frac{NI}{TA} = \frac{NI}{TR} \cdot \frac{TR}{TA}. \tag{2.32}$$

$$ROE=\frac{NI}{E} = \frac{NI}{TR} \cdot \frac{TR}{TA} \cdot \frac{TA}{E}. \tag{2.33}$$

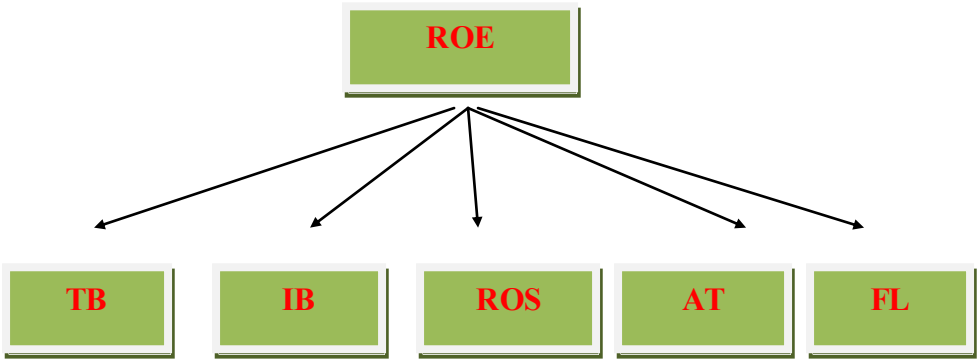
$$ROE=TB \cdot IB \cdot ROS \cdot AT \cdot FL. \tag{2.34}$$

$$ROE=\frac{NI}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{TR} \cdot \frac{TR}{TA} \cdot \frac{TA}{E}. \tag{2.35}$$

Where ROA is return on assets, ROE is return on equity, TB is tax burden, IB is interest burden, ROS is earning before tax and interest margin, AT is asset turnover and FL is financial leverage. NI is net income, TR is total revenue, TA is total assets, E is shareholders' equity, EBT is earning before tax, EBIT is earning before interest and tax.

We can regard ROE as a basic ratio, and every element can be called component ratio. Actually, we will give a sample about pyramidal decomposition.

Figure 2.1 The Simple Decomposition of ROE



In this composition, we need to introduce a formula to help decomposition after DuPont analysis:

$$P=\frac{AI\cdot AC}{\sum AC}. \tag{2.36}$$

Where P is proportion, AI is absolute influence and AC is absolute change.

2.5.1 Influence quantification

Influence quantification enables to analyze indicators, whose change have caused change in the basic ratio and quantifies which component ratios contributed to the changes in basic ratio at most. It includes method of gradual changes, logarithmic decomposition method and functional decomposition method.

A. Method of gradual changes enables to quantify the change in the basic ratio caused by the change in the component ratio:

$$\Delta X_{a1} = \Delta a_1 \cdot a_{2.0} \cdot a_{3.0}.$$

$$\Delta X_{a1} = a_{1.1} \cdot \Delta a_2 \cdot a_{3.0}. \quad (2.37)$$

$$\Delta X_{a3} = a_{1.1} \cdot a_{2.1} \cdot \Delta a_3.$$

Where X is basic ratio, ΔX is absolute change in the basic ratio, a is component ratio, Δa is absolute change in the component ratio.

B. Logarithmic decomposition method:

$$\Delta X_{a1} = ln\, l_{a1} = ln\, l_x \cdot \Delta X. \quad (2.38)$$

X-basic ratio

ΔX-absolute change in the basic ratio

$l_x = \frac{x_1}{x_2}$ – index of change in basic ratio

$l_a = \frac{a_1}{a_2}$ – index of change in component ratio

C. Functional decomposition method works with relative changes in basic and component ratios:

$$\Delta X_{relative} = R_x = \frac{(x_1 - x_0)}{x_0},\ \Delta a_t = R_{a_t} = \frac{(a_1 - a_0)}{a_0}.$$

$$\Delta X_{a_1} = \frac{1}{R_x} \cdot R_{a_1} \cdot \left(1 + \frac{R_{a_2}}{2} + \frac{R_{a_3}}{2} + \frac{R_{a_2} \cdot R_{a_3}}{3}\right) \cdot \Delta X.$$

$$\Delta X_{a_2} = \frac{1}{R_x} \cdot R_{a_2} \cdot \left(1 + \frac{R_{a_1}}{2} + \frac{R_{a_3}}{2} + \frac{R_{a_1} \cdot R_{a_3}}{3}\right) \cdot \Delta X. \quad (2.39)$$

$$\Delta X_{a_3} = \frac{1}{R_x} \cdot R_{a_3} \cdot \left(1 + \frac{R_{a_1}}{2} + \frac{R_{a_2}}{2} + \frac{R_{a_1} \cdot R_{a_2}}{3}\right) \cdot \Delta X.$$

3. Assessment of financial position

The Boeing company was founded in 1916 on July 1, founded by William Edward Boeing, and in 1917, renamed the Boeing company. In 1929 changed its name to the joint plane and Air Company. In 1934, according to government regulations split into three independent companies: United Aircraft Corporation (now united technologies company), Boeing Aircraft Company, United Airlines. In 1961, the former Boeing aircraft company changed its name to the Boeing Company.

3.1 The profile of Boeing

Boeing is the world's largest aerospace company and leading manufacturer of commercial jetliners and defense, space and security systems. A top U.S. exporter, the company supports airlines and U.S. and allied government customers in 150 countries. Boeing products and tailored services include commercial and military aircraft, satellites, weapons, electronic and defense systems, launch systems, advanced information and communication systems, and performance-based logistics and training.

Boeing has a long tradition of aerospace leadership and innovation. The company continues to expand its product line and services to meet emerging customer needs. Its broad range of capabilities includes creating new, more efficient members of its commercial airplane family; integrating military platforms, defense systems and the warfighter through network-enabled solutions; creating advanced technology solutions; and arranging innovative customer-financing options.

With corporate offices in Chicago, Boeing employs more than 165,000 people across the United States and in more than 65 countries. This represents one of the most diverse, talented and innovative workforces anywhere. Our enterprise also leverages the talents of hundreds of thousands more skilled people working for Boeing suppliers worldwide.

Boeing is organized into two business units: Boeing Commercial Airplanes and Boeing Defense, Space & Security. Supporting these units are Boeing Capital Corporation, a global provider of financing solutions; Shared Services Group, which provides a broad range of

services to Boeing worldwide; and Boeing Engineering, Operations & Technology, which helps develop, acquire, apply and protect innovative technologies and processes.

Boeing has been the premier manufacturer of commercial jetliners for more than 40 years. Today, the company manufactures the 737, 747, 767, 777 and 787 families of airplanes and the Boeing Business Jet. New product development efforts include the Boeing 787-10 Dreamliner, the 737 MAX, and the recently launched 777X. More than 10,000 Boeing-built commercial jetliners are in service worldwide, which is roughly 48 percent of the world fleet. The company also offers the most complete family of freighters, and about 90 percent of the world's cargo is carried onboard Boeing planes.

Through Boeing Commercial Aviation Services, the company provides unsurpassed, around-the-clock technical support to help operators maintain their airplanes in peak operating condition. Commercial Aviation Services offers a full range of world-class engineering, modification, logistics and information services to its global customer base, which includes the world's passenger and cargo airlines, as well as maintenance, repair and overhaul facilities. Boeing also trains maintenance and flight crews in the 100-seat-and-above airliner market through Boeing Training & Flight Services, the world's largest and most comprehensive provider of airline training.

Boeing Defense, Space & Security (BDS) is one of the largest, most experienced companies in the markets it serves around the world. It provides best-of-industry solutions for the design, production, modification and support of military fixed-wing aircraft, rotorcraft, weapons, and satellite systems, among others. It helps customers address a host of requirements through a broad portfolio that includes the 702 family of satellites; AH-64 Apache helicopter; cyber security; EA-18G electronic attack aircraft; KC-46 aerial refueling aircraft, which is based on the Boeing 767 commercial airplane; the P-8 anti-submarine/anti-surface warfare aircraft, which is based on the 737 commercial jet; and the Phantom Eye unmanned aircraft system that is fueled by liquid hydrogen. What's more, driven by its ability to provide customers with the right solutions, at the right time, and at the right cost, BDS is seeking ways to better leverage information technologies and continues to invest in the research and development of enhanced capabilities and platforms.

Boeing Capital Corporation is a global provider of financing solutions. Working closely with Commercial Airplanes and Defense, Space & Security, Boeing Capital Corporation ensures Boeing customers have the financing needed to buy and take delivery of their Boeing

products. With a year-end 2014 portfolio value at approximately $3.5 billion, Boeing Capital Corporation combines Boeing's financial strength and global reach, detailed knowledge of Boeing customers and equipment and the expertise of a seasoned group of financial professionals.

EO&T enhances Boeing's growth and productivity by driving technical and functional excellence across the enterprise. Its primary objectives are to support the company's business units by delivering high-quality, low-cost technical services in information technology, research and technology, and test and evaluation; integrated enterprise strategies that ensure technology is ready when needed, competitively protected and environmentally progressive; and highly disciplined and efficient engineering, operations and supplier management support that ensures program success. The organization pays particular attention to ensuring the success of development programs, leads and supports efforts to reduce the company’s environmental footprint and improve employee safety, and strives to attract, develop and retain a world-class technical and functional workforce.

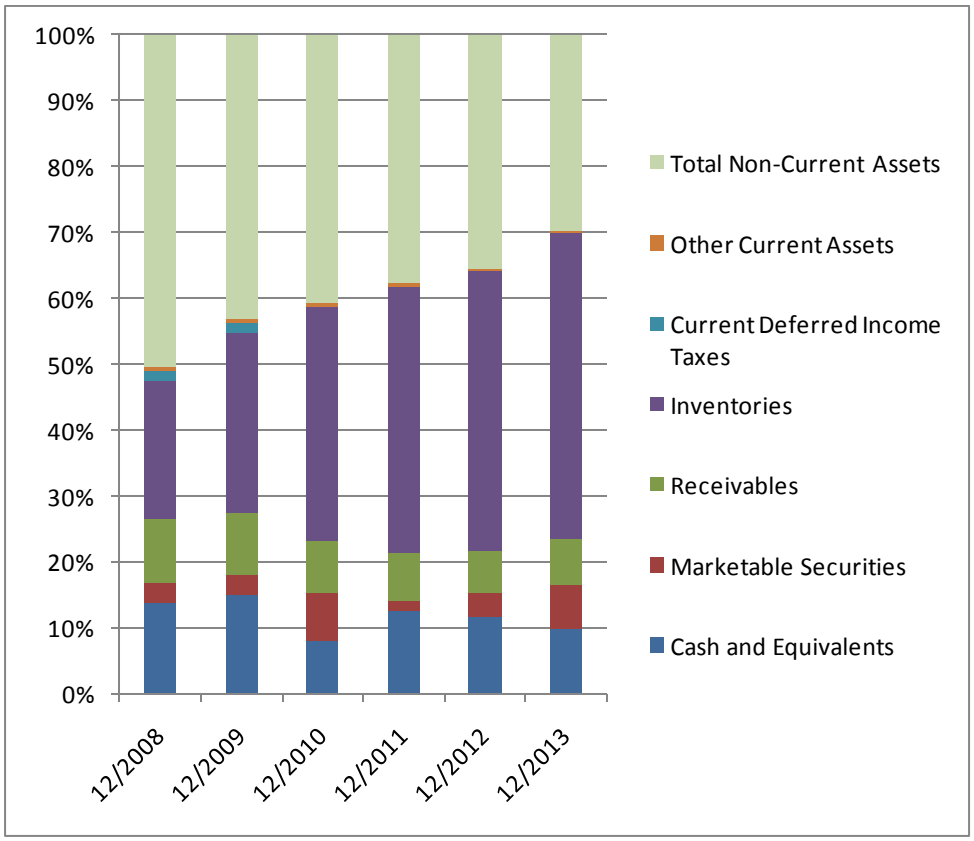
3.2 Common-size analysis

We have introduced three financial statements. Next, in this section we will analyze Boeing financial situation by common-size analysis.

3.3.1 The vertical common-size analysis of balance sheet

In this part, the vertical common-size analysis of total assets is analyzed in the first. After that, we analyze vertical common-size analysis of liability and equity.

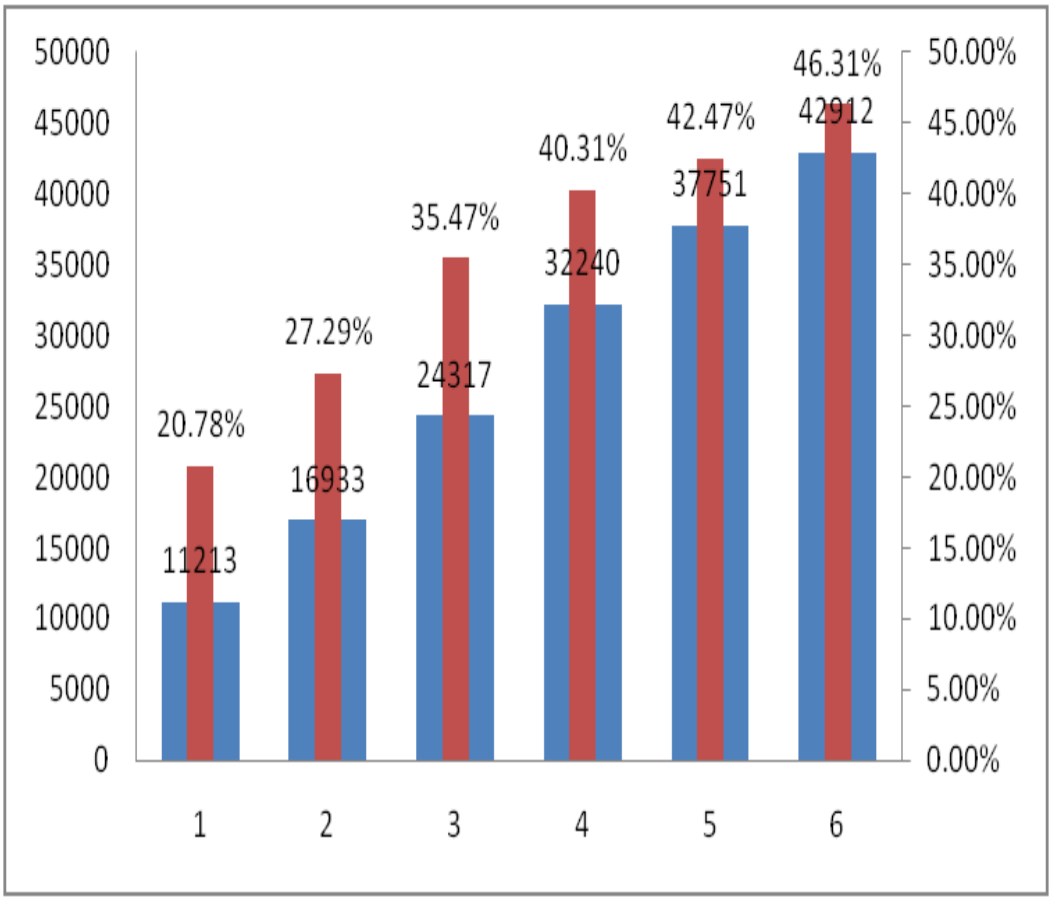
Figure 3.1 The Vertical Common-size Analysis of Total Assets



In the figure 3.1, we are easy to see that the proportion of every item keep stable except inventories and total non-current assets on the structure. Therefore we mainly analyze the inventory and the total non-current assets.

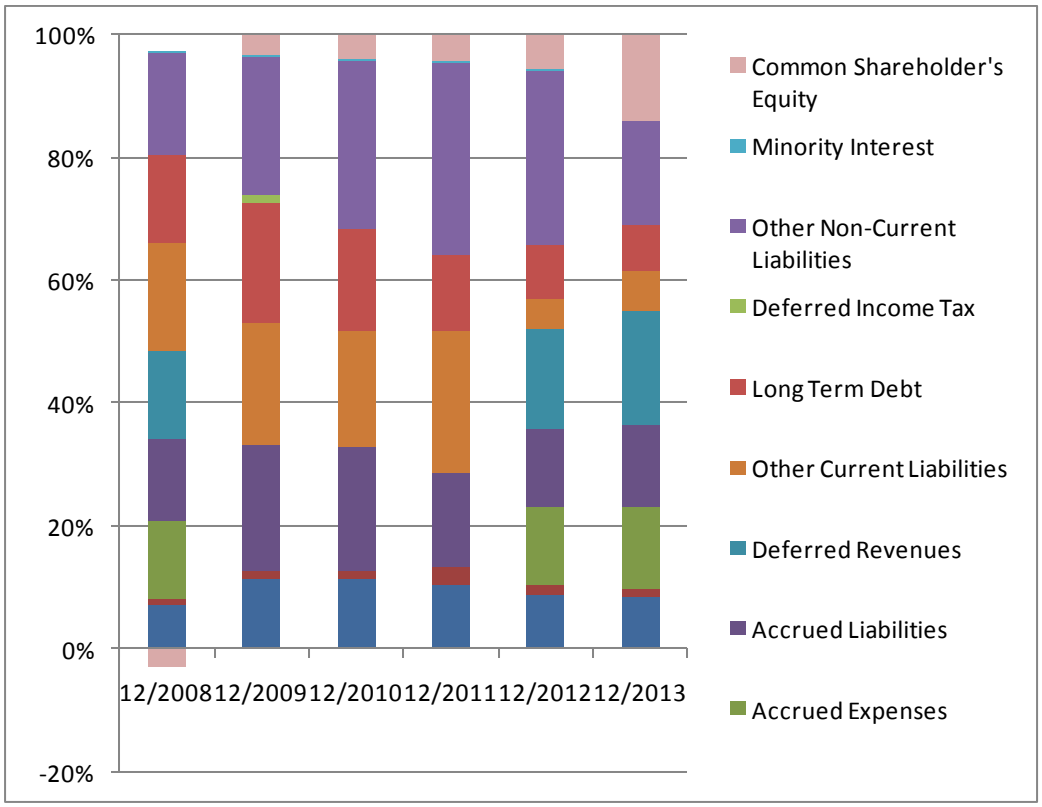
Firstly, it is obvious that the proportion of total non-current assets is decreasing, which means that many of long-term assets are transformed into current assets, thus the liquidity of assets is being better. Total non-assets are important for company because company need to rent land, buy buildings and machines, or hold some long-term obligation for interest return. According to data from Internet, if non-current assets exceed 30% of total assets, we can suppose that there is a good management on non-current assets. In this figure, all of total non-assets have exceeded 30%, which means that it is enough to reply to long-term risk and also confirm that non-current assets are managed very well.

Figure 3.2 The amount of inventory and the proportion of inventory



Then, as far as we know that the current assets are also important for company because company need to buy materials, pay for wages and so on. It is also obvious that the proportion of inventories is increasing. We can from two parts to explain it. The first is on the structure, due to total non-current assets decreased on the structure, which means the current assets increased because the proportion of other items keeps stable and the proportion of inventory increases on structure. At the same time, that also means current assets are increasing on the structure. The second is on the fact, as we can see from the figure 3.2, the amount of inventory and the proportion of inventory increase as well. With the expanding of the scale of production, the company received more orders, so also need to produce more products, resulting in inventory increase on the structure and quantity.

Figure 3.3 The Vertical Common-size Analysis of Liability and equity



In the figure 3.3, the proportion of equity is stable except in 2013, there is a big change of increase from 2012 to 2013. The main reason is that the company issues a big amount of common stocks in 2013, that's why equity has an obvious increase. Then, we can see that the proportion of other non-current liabilities is increasing from 2008 to 2011 and is decreasing from 2011 to 2013. The increase of reason is that the increase of employees led to a rise accrued payment of medical insurance and pension insurance. On the contrary, the reduction of reason is that the decrease of employees led to a fall accrued payment of medical insurance and pension insurance.

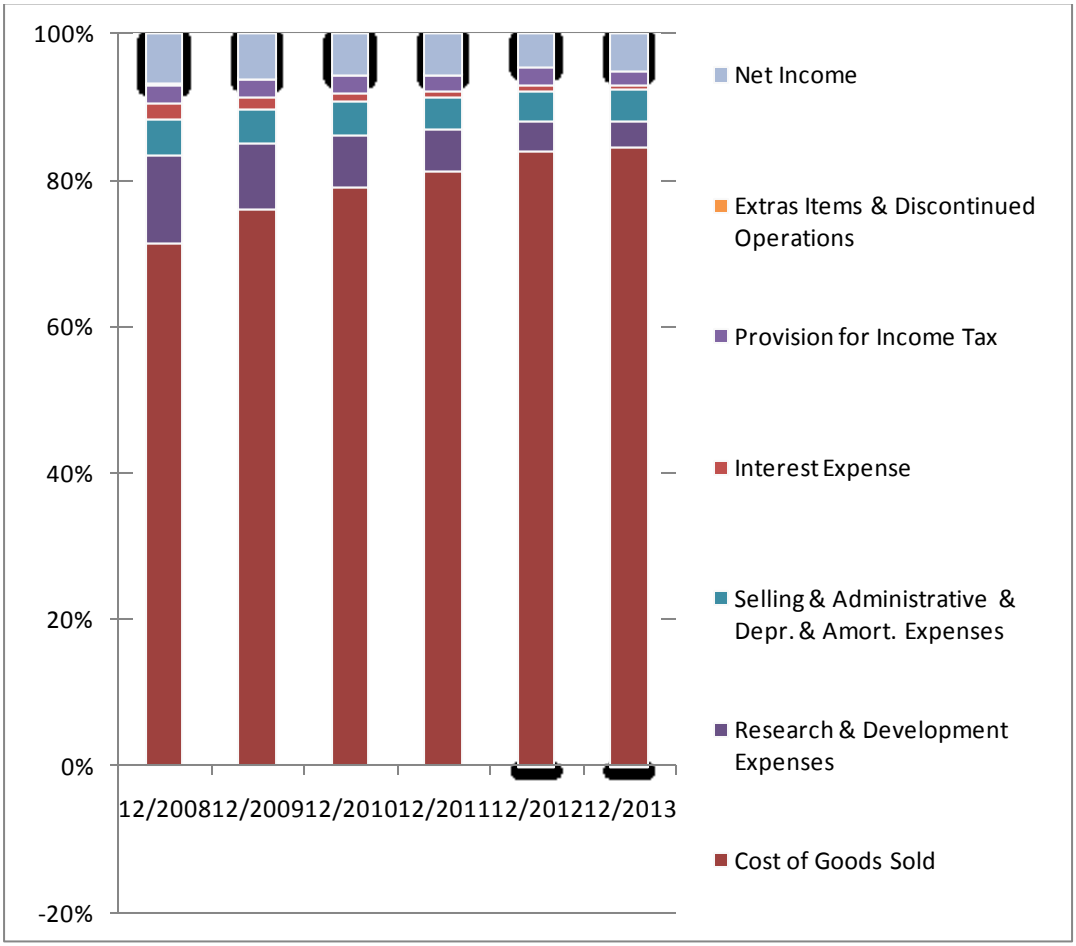
As we can see from this figure, the proportion of long-term liabilities is decreasing because company makes a decision to transform it to equity for making risk separated. About why the proportion of other current liabilities has a big change from 2011 to 2012, the answer is that company decreased current credit payments by decreasing projects which have contract with other company. It is obvious that the proportion of deferred revenues is discovered in 2008, 2012 and 2013. Actually, we can suppose that company makes some short-term investments and gets profit from these investments. In general, we can see the proportion of

accrued expenses has the same situation with deferred revenues, we can suppose that company borrows short-term loans and pays interests and loans in these years.

3.3.2 Income statement vertical common-size analysis

Income statement vertical can show that every kind of expenses and profit from revenue. At the same there are some different with balance sheet structure.

Figure 3.4 The Vertical Analysis of Income Statement

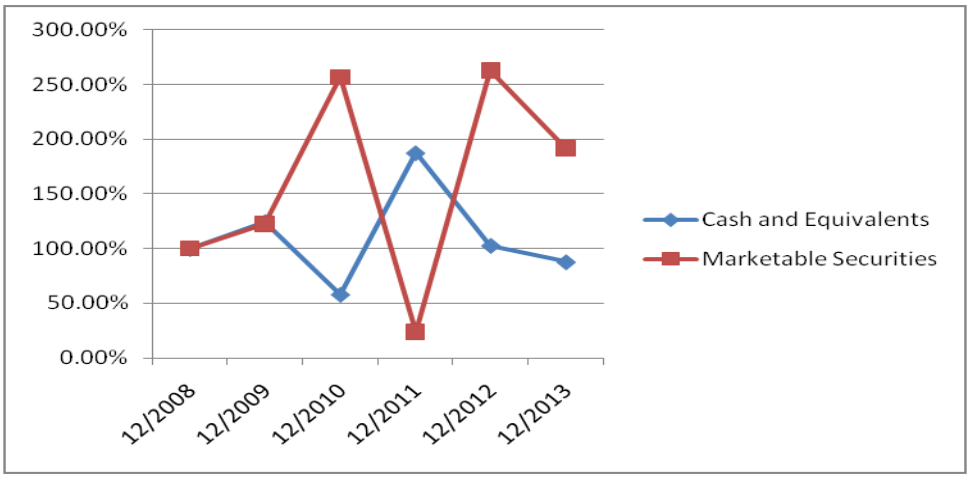


Cost of goods sold is increasing from 2008 to 2013, which means the scale of production is extending. Actually, we also know that from previous inventory of analysis. Therefore, as we can see from figure 3.4 that company receives a lot of orders and projects and it leads that company need to buy lots of materials for producing and pay all kinds of direct costs.

3.3.3 The horizontal common-size analysis of balance sheet

In this part, we pick up some data which have big changes to analyze. At the same time, we give a figure for every data to clearly see those changes and explain what happened to this important year.

Figure 3.5 The Horizontal Common-size Analysis of Assets 1

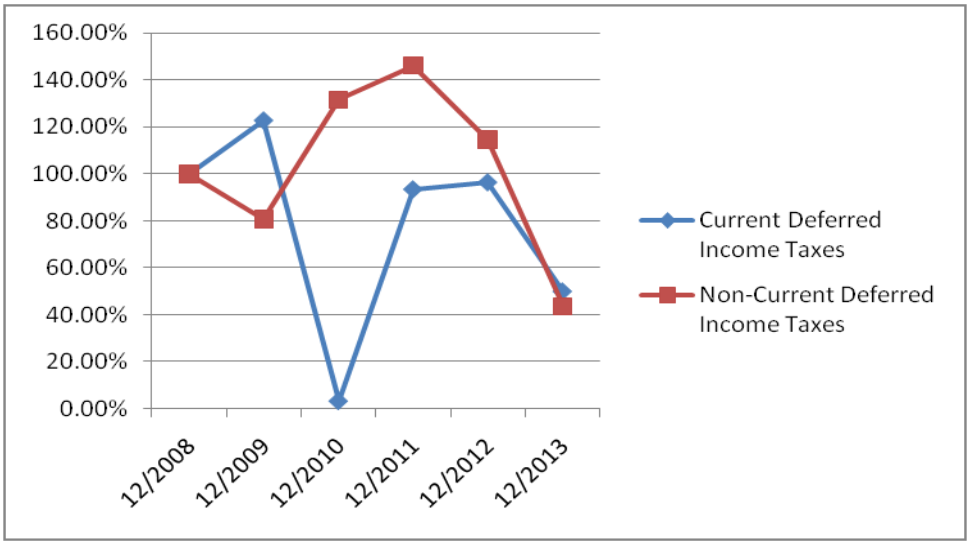


As we can see from figure 3.5, marketable securities increased approximately 250% and cash and equivalents decreased approximately 50% in 2010. The increase of investing activities and financing activities by company is led to reduction of cash and equivalents. At the same time, cash and equivalents and marketable securities should keep a relative level to deal with short-term debts and make full use of the cash, therefore company increased marketable securities.

Actually, it is obvious that the marketable securities approximate 25%, the cash and equivalents approximates 200% in 2011 because cash is from operating activities and investing activities. We can explain that company sold marketable securities to get cash and make cash of investment positive.

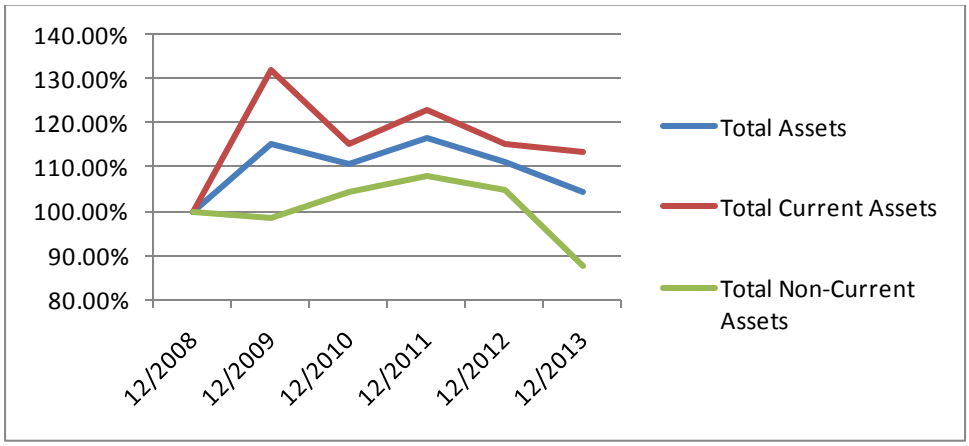
Finally, the increase of marketable securities approximates 250% again and the cash and equivalents keep stable because net cash of operating activities is equal to net cash of investing activities and financing activities. So there is a reasonable explanation why marketable securities increased higher.

Figure 3.6 The Horizontal Common-size Analysis of Assets 2



From the figure 3.6 to see, the current deferred income taxes are decreasing except in 2009 and the reduction of it in 2010 is the highest. At the same time, the decrease of non-current deferred income taxes is the highest in 2010. Firstly, we know that deferred income tax is an accounting term on a firm's balance sheet that is used to illustrate when a firm has overpaid on taxes and is due some form of tax relief. Therefore, we can realize that company decreased them for the increase of taxable income.

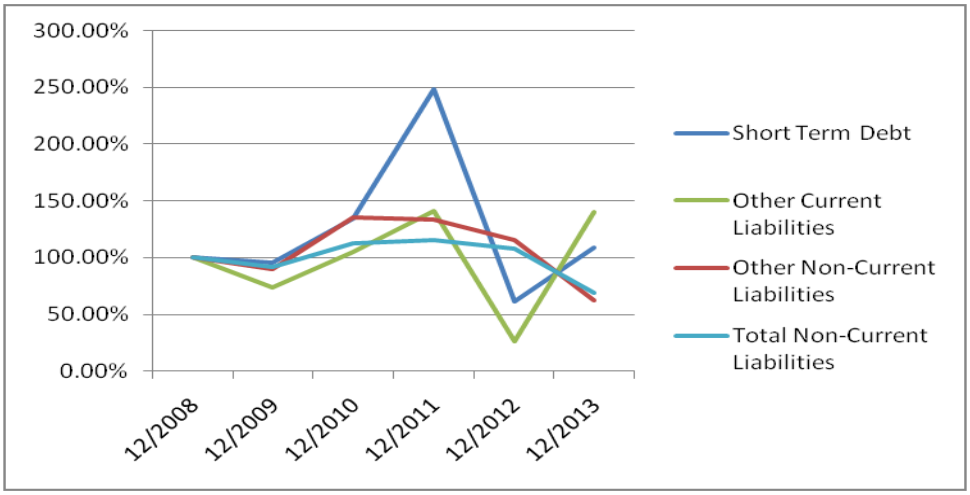
Figure 3.7 The Horizontal Common-size Analysis of Assets 3



As we can see from the figure 3.7, total assets are increasing in all of years. Total current assets are increasing and total non-current assets are almost stable, that is why total assets are increasing as well. Meanwhile, we can see that the increase of total current assets is the highest in 2009 because the inventory increased too much and other current assets are stable.

In fact, company receives more orders from customer, which means that company need to produce more products to satisfy demand. That's why the inventory increases.

Figure 3.8 The Horizontal Common-size Analysis of Liabilities

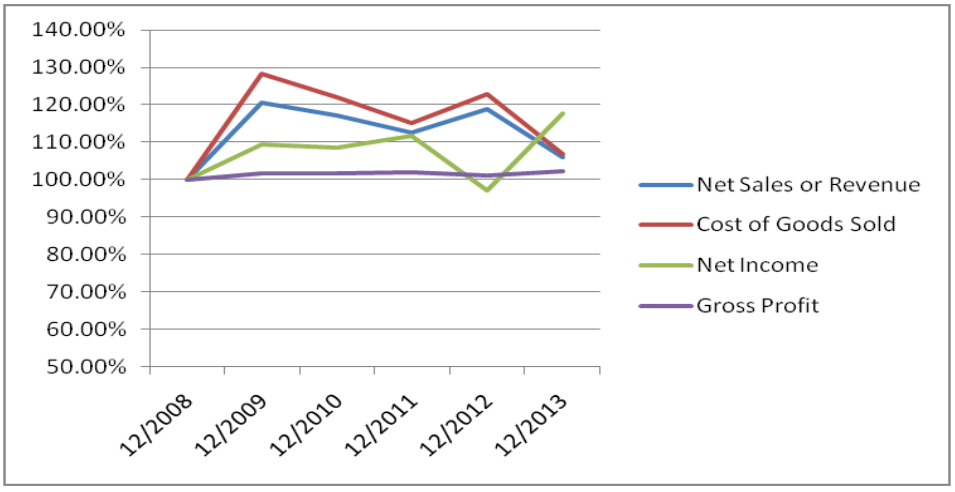


From figure 3.8 to see, it is obvious that short-term debt increased approximately 250%, the main reason is that company sold a big amount of unsecured debt securities. The other current liabilities are lowest in 2012 because company issues some securities and some projects which belong to company are undertaken by other companies. The other non-current liabilities and total non-current liabilities are the lowest in 2013 because company paid for pension plan and repaid some long-term debts, so they decreased.

3.3.4 The horizontal common-size analysis of income statement

In this section, we analyze some important items to understand profitability of company.

Figure 3.9 The Horizontal Common-size Analysis of Profitability



In the figure 3.9, it is not difficult to see that the revenue, cost of goods sold and net income are increased in all of years, but the gross profit is stable. There are three special points that we should explain. Firstly, we are able to thing the gross profit is the same for every year. As we can see from this figure in 2011, the revenue, cost of goods sold and net income are increased, and the increased proportion of the revenue and cost of goods sold are decreasing from 2009 to 2011, but the increased proportion of the net income is increasing from 2009 to 2011. The main reasons are the reduction of interest costs and company avoiding tax reasonably.

Then, the increased proportion of revenue and the increased proportion of cost of goods sold are increasing from 2011 to 2012, but net income is decreasing because the tax expense is the highest in 2012. We can suppose that previous deferred tax is paid in this year, that's why the proportion of net income is the lowest in 2012.

Finally, we are easy to identify that the increase of net income is the biggest in 2013 because company decreased tax payment by deferred income tax assets. Therefore, we can explain why earnings before tax in 2013 is higher than earnings before tax in 2012, but tax expense in 2013 is lower than tax expense in 2012.

4. Profitability assessment of the selected company

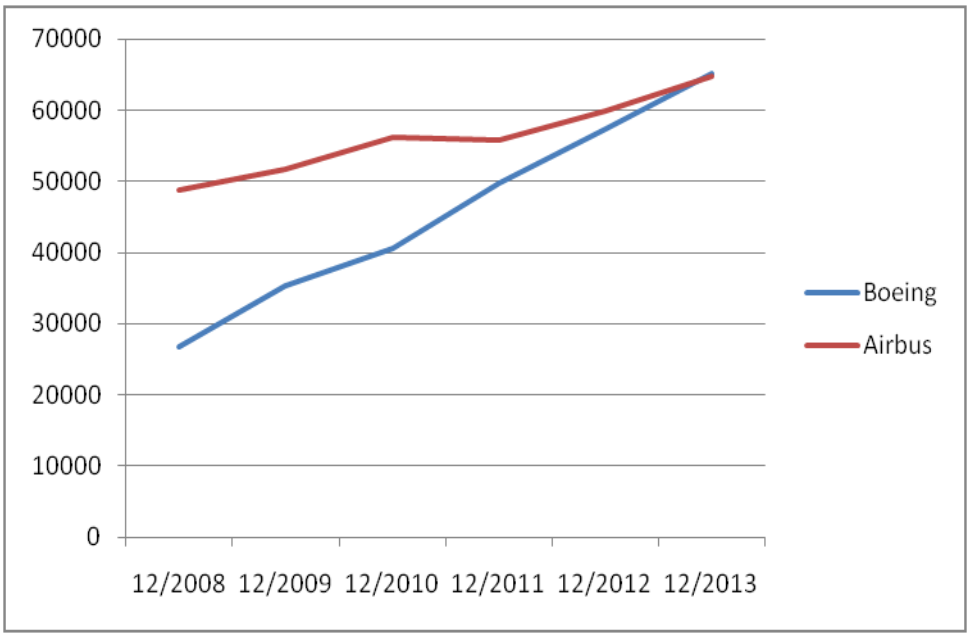
In this chapter, we introduce profitability of Boeing an, and analyze how to decompose ROE. According to these data in financial statements and methods we introduce before, we can deeply know about company.

4.1 Financial ratios analysis

In this part, we evaluate the Boeing and airbus by their comparison.

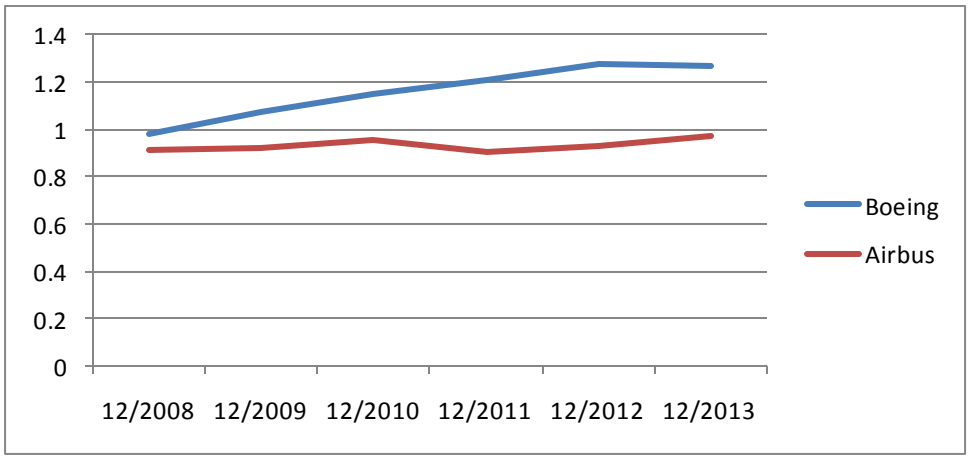
4.1.1 Analysis of short-term debt-paying ability

Figure 4.1 The working capital of Boeing and Airbus



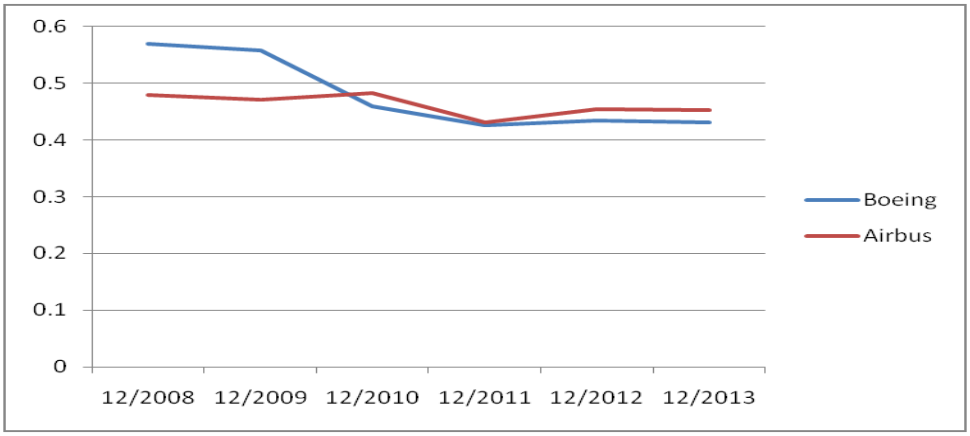
As we can see from the figure 4.1, their working capitals are positive and increasing. There is no doubt that their short-term debt-paying are guaranteed. But their difference is that the changes of Boeing's working capital are faster than Airbus and Boeing exceeds Airbus in 2013, which means that Boeing has more money to operate company.

Figure 4.2 The Current Ratio of Boeing and Airbus



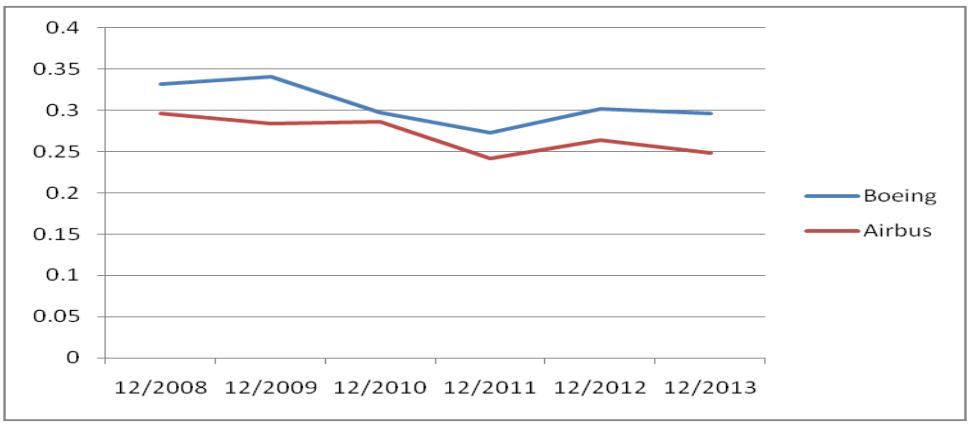
In the figure 4.2, it is obvious that the current ratio of Boeing is greater than one except in 2008, but Airbus always lower than one, which means that Boeing has enough money to deal with short-term debts and it does not need to borrow money in a short period.

Figure 4.3 The Quick Ratio of Boeing and Airbus



As far as we know that quick at 1:1 ratio is relatively normal, it shows that one dollar of current liability can be paid by one dollar of current asset which is easy to convert into cash immediately as enterprise as possible. According to tendency from the figure 4.3, their quick ratios do not have big changes. At the same time, we know that quick ratio is equal to current assets except inventory divided by current liability, but we also know that inventory is not impossible to convert into cash immediately. Therefore, with the reduction of Boeing's quick ratio, there are lots of inventory to have by Boeing, which means that Boeing has more orders than before. In fact, it also means that Boeing has better ability to deal with short-term debts in the future.

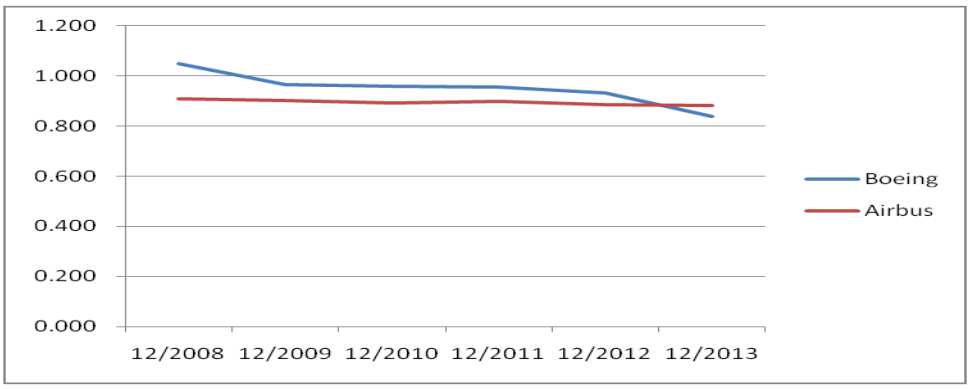
Figure 4.4 The Cash Ratio of Boeing and Airbus



Usually we think that if the cash ratio is greater than 20%, the company will have a good cash management. Therefore, their cash ratios are not bad. At the same time, too much cash is not good for company operation because company will lose chances to make profit by investing some projects and we can call it opportunity costs. In fact, Boeing' cash ratio is higher than Airbus, which means lots of opportunity costs are undertaken by Boeing company. Boeing should keep cash ratio at around 20%.

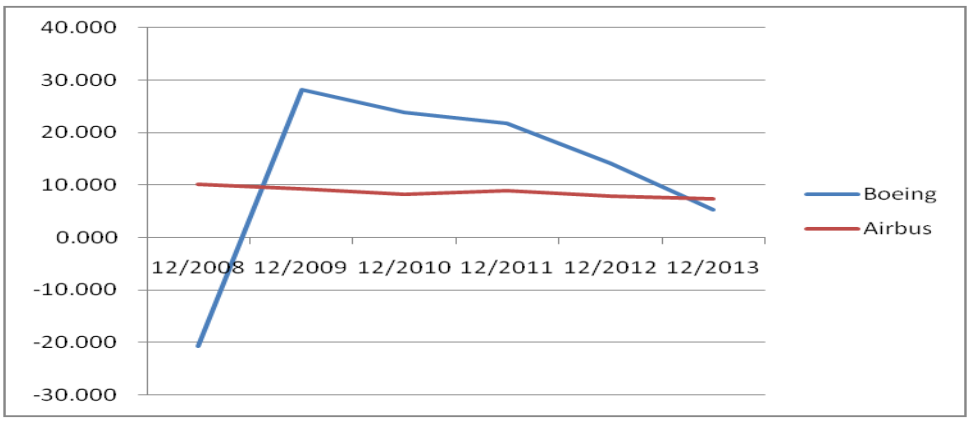
4.1.2 Analysis of long-term debt-paying ability

Figure 4.5 The Debt Ratio of Boeing and Airbus



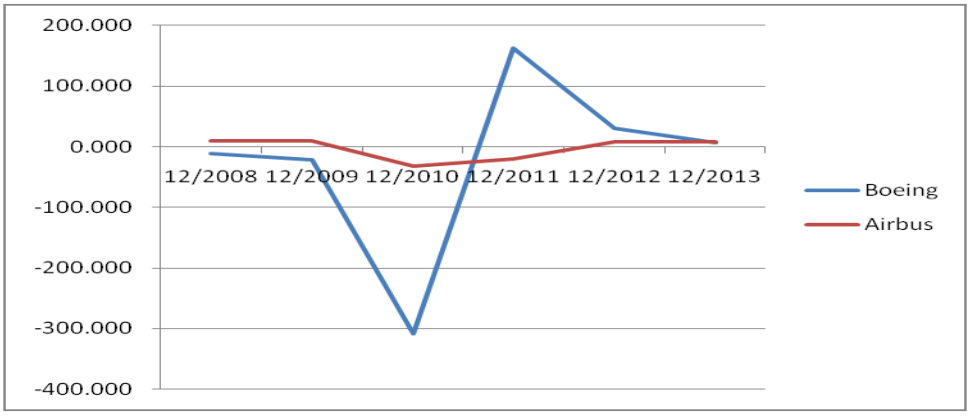
We have known that debt ratio represents the level of debts in a company, and company will be bankrupt if this ratio exceeds one. As we can see from the figure 4.5, debt ratio of Boeing is decreasing from 2008 to 2013, from their balance sheets to see, although total assets and total liabilities are increasing as well, but the increase of total assets is faster than total liabilities. At the same time, debt ratio of Airbus keep stable, which means that Boeing is going to a good debts structure.

Figure 4.6 The Debt-to-Equity Ratio of Boeing and Airbus



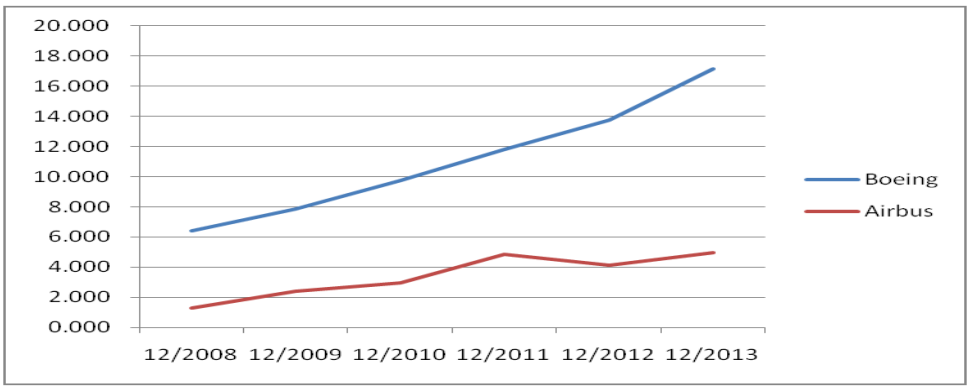
Debt-to-equity ratio represents the undertaken risk by shareholder and it is the best situation if this ratio is close to zero. If this ratio is negative, company will undertake all of risk by itself. Debt-to-equity ratio of Boeing is decreasing except in 2008, which means financial situation of company is stable and has more abilities to deal with long-term debt because the increase of equity is faster than the increase of total debts. Obviously, the debt-to-equity ratio of Airbus decreases slowly, which means that Boeing is not stable in previous years because the Boeing's reduction of debt-to-equity ratio is faster than Airbus.

Figure 4.7 The Debt to Tangible Assets Ratio of Boeing and Airbus



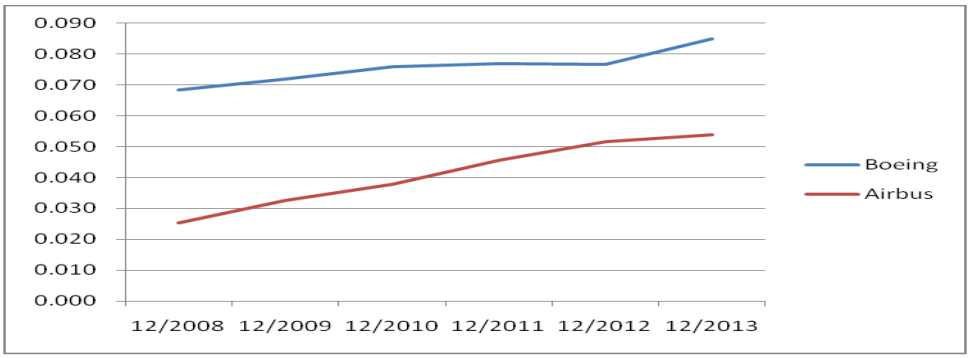
Debt to tangible assets ratio represents the ability of repayment by tangible assets and company has a good management on tangible assets if this ratio is stable. Actually, it is obvious that debt to tangible assets ratio of Boeing is volatile, which means that Boeing does not have a good management on tangible assets.

Figure 4.8 The Interest Coverage of Boeing and Airbus



Interest coverage represents the level of interest payment in operating profit. It is obvious that interest coverage of Boeing is higher than Airbus, which means that interest payments in the proportion of operating profit from Boeing are lower than Airbus. Therefore, Boeing has good management on liability because company finds out the best way to save costs of loan.

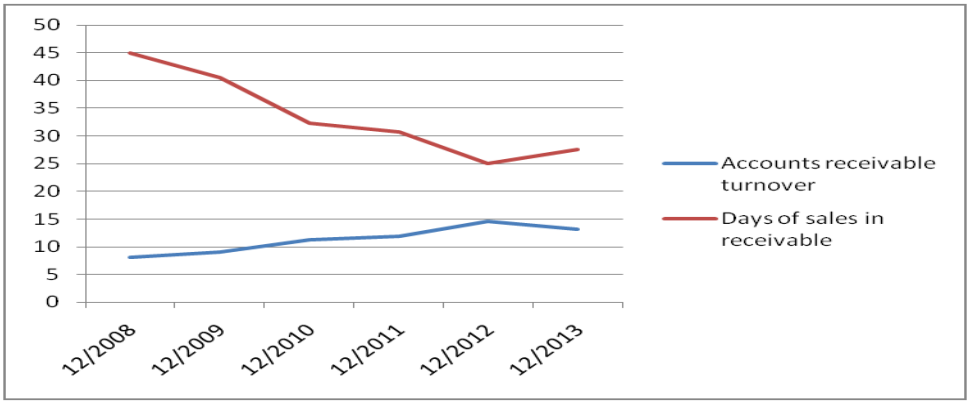
Figure 4.9 The Operating income/Total liabilities of Boeing and Airbus



The last ratio represents the ability of debts utilization which gets profits. Operating income/ Total liabilities ratio of Boeing is higher than Airbus, which means Boeing is able to make full use of debts to get profits.

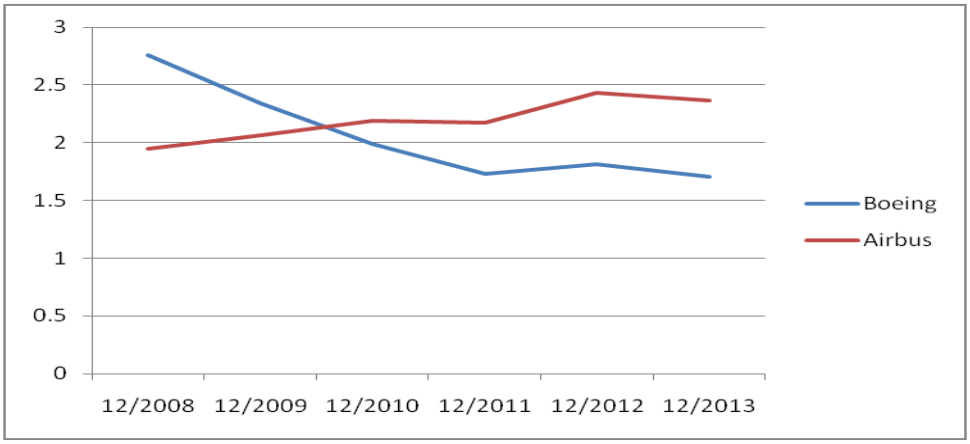
4.1.3 Analysis of operating cycle

Figure 4.10 The Accounts Receivable Turnover and Days of Sales in Receivable of Boeing



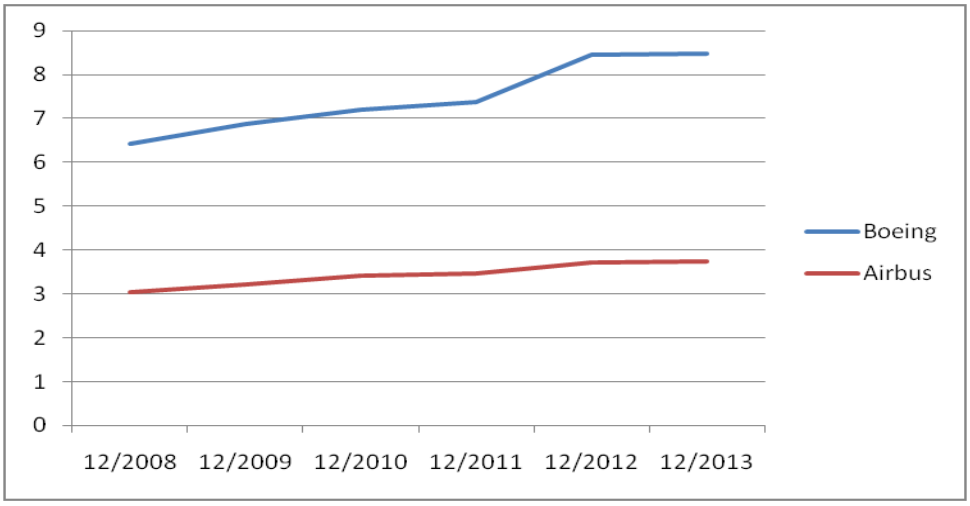
According to the figure 4.10, Accounts receivable turnover of Boeing goes up year by year except in 2013. On the contrary, days of sales in receivable are going down. It explains that the growth rate of revenues exceeds growth rate of account receivables and there are shorter days to get money from account receivable. The main reason that rapid running of receivables leads to a better operating efficiency from company. Company not only can receive loans from outside, but also reduce or avoid the possibility of bad debt losses and to improve liquidity.

Figure 4.11 The Inventory Turnover of Boeing and Airbus



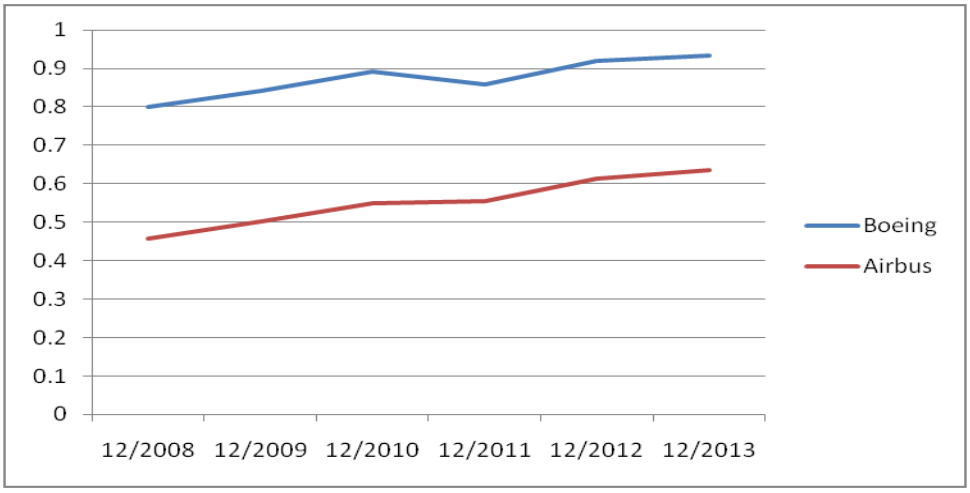
Inventory turnover represents how many times to use inventory in one year. Inventory turnover of Boeing is decreasing except in 2012, which means costs of management from inventory are increasing and it shows that the occupation of the inventory level of Boeing is high and has low liquidity. Inventory turnover of Airbus increases year by year, it also illustrates the company save a lot of cost and has high liquidity.

Figure 4.12 The Fixed Assets Turnover of Boeing and Airbus



Obviously, fixed assets turnover of Boeing and Airbus are increasing, which means the utilization of fixed assets of them has become higher and the management level constantly improved. Meanwhile, it has advantages for improving their profitability. However, it is important for us that Boeing's fixed asset utilization is much higher than that of airbus.

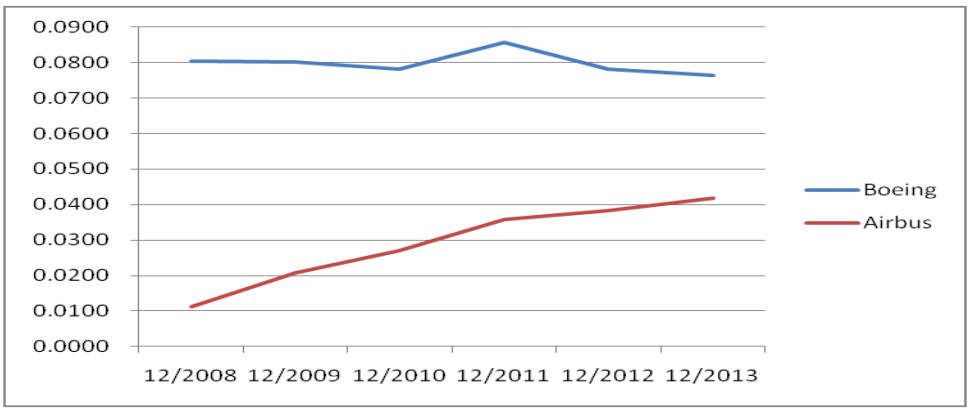
Figure 4.13 The Total Assets Turnover of Boeing and Airbus



In general, both of their total assets turnovers are increasing. It shows that their management is better than before. It is obvious that total assets turnover of Boeing is higher than Airbus, which means there is more efficient management from Boeing.

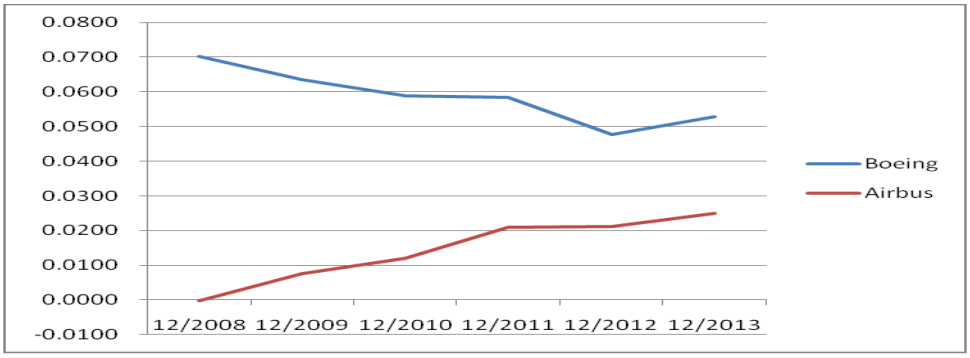
4.1.4 Profitability analysis

Figure 4.14 The Operating Profit Margin of Boeing and Airbus



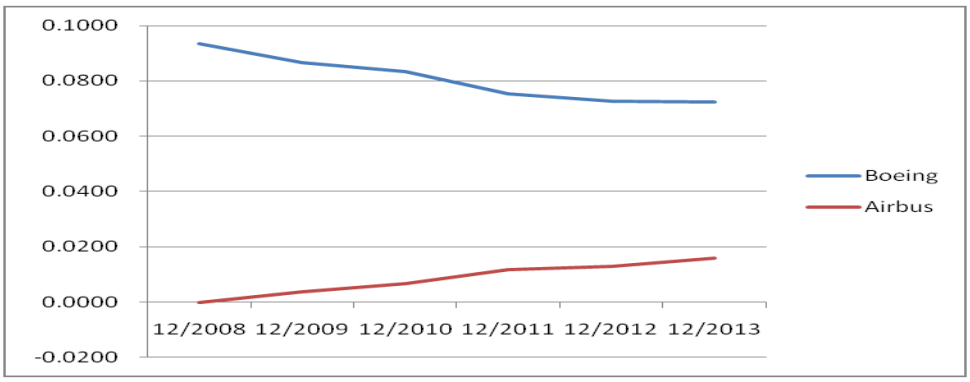
Operating profit margin represents how much money you can obtain from difference between revenues and total costs. According to comparison with Boeing and Airbus, we have to know that the rate of return from Boeing is higher that Airbus. In another words, we are able to know the rate of costs which represents the good or bad management of costs. Absolutely, we are easy to know that Boeing succeeds to make costs minimum and make profits maximized.

Figure 4.15 The Net Profit Margin of Boeing and Airbus



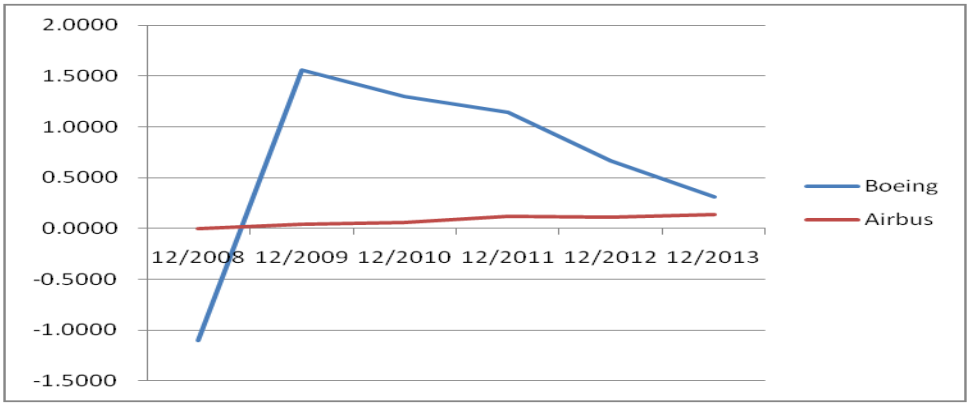
Meanwhile, the net profit margin is similar to operating profit margin and the differences of them are interest paid and tax. We know that interest paid is decided by interest rate and borrowed money, tax is decided by tax rate and earnings before tax. According to the figure 4.15, the net profit margin of Boeing is decreasing and Airbus is increasing, which means that Boeing should improve it by some measures such as avoidance of tax, decrease borrowed money and so on.

Figure 4.16 The Return on Assets of Boeing and Airbus



Return on assets represents the utilization of assets. The utilization of assets is higher if this ratio is higher. As we can see from the figure 4.16, it is easy to see that Boeing has an obvious advantage on utilization of assets.

Figure 4.17 The Return on Equity of Boeing and Airbus



According to before analysis, we have known that the utilization of assets from Boeing is greater than Airbus. So this is also fit for return on equity. However, their return on equity's number is negative in 2008. The reason is very different. Boeing is due to his insolvency, and Airbus results from his loss. At the same time, this ratio represents how much per equity can be divided. It is obvious that Boeing has the highest return in 2009 and is going down in the following years.

4.2 Profitability assessment over time

Pyramid decomposition can help us better to understand which factors or indicators affecting the company, and know which factors are the most important. At the same time we can help the company better operation according to these conditions.

We can regard ROE as the most basic ratio. Because it is directly the performance of the rights and interests of the company's return, it is also a shareholder's favorite things. We have introduced DuPont (gradual change) analysis, ROE will be decomposed by it. Then we choose the biggest influence of several factors to further decomposition again to them.

4.2.1 Decomposition of Boeing from 2008 to 2009

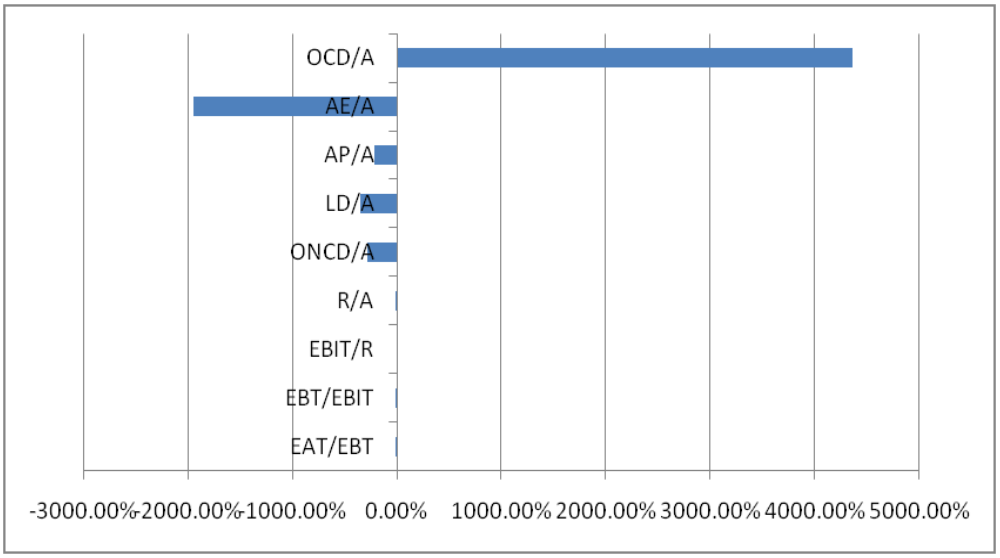
In this case, tax burden and interest burden do not need to decompose because tax rate and interest rate are fixed. At the same time, we can identify each data by the following model.

Ratio	
Formula	
year 0	year 1
Difference	
Influence	

Figure 4.18 Decomposition of Boeing from 2008 to 2009

					ROE(Boeing) EAT/E										
					-1.08826	14.709253									
					15.79751										
					1579.75%										
Tax burden EAT/EBT				ROS EBIT/R		Assets turnover R/A		Financial leverage A/E							
0.681114	0.69836	0.843441	0.873036	0.080364	0.080243	0.8902076	0.898021	-26.4793	334.7986						
0.017246		0.029595		-0.00012		0.0078133		361.277933							
-2.76%		-3.92%		0.17%		-1.01%		1587.26%							
								1/(1-D/A)							
								-26.4793	334.7986						
								361.277933							
								1587.26%							
						NCD/A				CD/A					
						0.3609049	0.358789			0.520634	0.528102				
						-0.002116				0.007469					
						-627.62%				2214.88%					
				LD/A		ONCD/A			AP/A		AE/A			OCD/A	
				0.2270505	0.187165	0.3695909	0.336943		0.113221	0.11021	0.236204	0.208305	0.091699	0.154391	
				-0.039886		-0.032648			-0.00301		-0.0279		0.062692		
				-345.12%		-282.49%			-209.90%		-1944.30%		4369.09%		

Figure 4.19 The Influence of Factors



In the figure 4.18, it is obvious that financial leverage impact on ROE is the most important factor, so we decided to keep its absolute influence and continue to decompose. We have broken down financial leverage into NCD/A and CD/A, where NCD/A is non-current debts divided by total assets and CD/A is current debts divided by total assets. In order to analyze them in detail, we also have decomposed NCD/A into LD/A and ONCD/A, where LD/A is long-term debts divided by total assets and ONCD/A is other non-current debts divided by total assets. The CD/A is separated by AP/A, AE/A and OCD/A, where AP/A is accounts payable divided by total assets, AE/A is accrued expenses divided by total assets and OCD/A is other current debts divided by total assets.

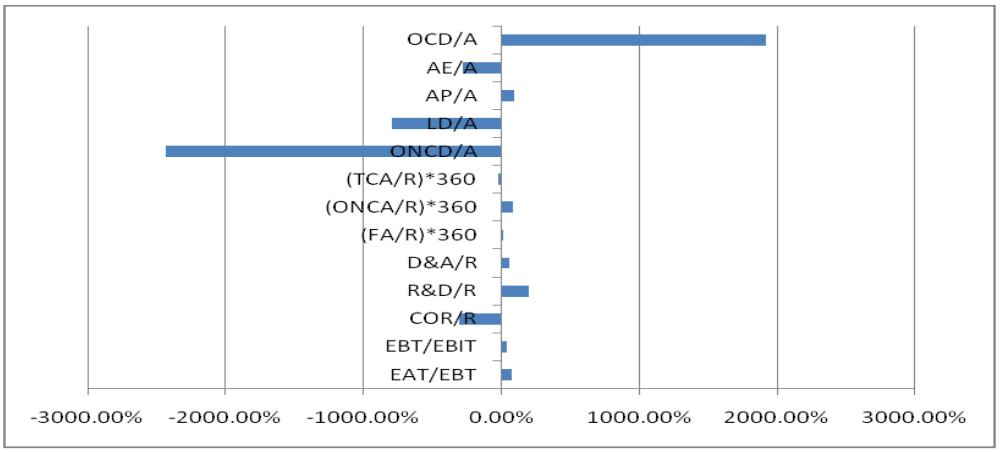
According to the figure 4.19, there are two important factors to influence ROE and they are other current debts and accrued payable. Other current debts influence ROE by 4369.09% positively and accrued payable influence ROE by 1944.30% negatively. In 2008, Boeing's total assets are lower than total liabilities because the equity is negative, which means that Boeing has the risk of bankrupt. However, in 2009, Boeing improves this situation by decreasing non-current debts and increasing current debts.

4.2.2 Decomposition of Boeing from 2009 to 2010

Figure 4.20 Decomposition of Boeing from 2009 to 20010

						ROE(Boeing) EAT/E																											
						14.70925	1.1955893																										
						-13.5137																											
						-1351.37%																											
Tax burden EAT/EBT				Interest burden EBT/EBIT			ROS EBIT/R			Assets turnover R/A							Financial leverage A/E															
0.69836	0.733748			0.873036	0.897273		0.0802434	0.078111		0.8980208	0.937884						334.7986	24.7885														
0.035388				0.024237			-0.002132			0.0398629							-310.01														
74.54%				42.90%			-42.21%			68.63%							-1495.23%														
				1			TC/R			360			A/R*360				1/(1-D/A)														
				1		1	0.8968537	0.899496		1		1	400.881563	383.8429			334.7986	24.7885														
				0			0.0026424			0			-17.038687				-310.01														
				0.00%			-42.21%			0.00%			68.63%				-1495.23%														
COR/R				R&D/R			D&A/R			(TNCA/R)*360			(TCA/R)*360				NCD/A			CD/A											
0.759585	0.778745			0.07676	0.064084		0.0605091	0.056667		179.26533	156.7113		221.616234	227.1315			0.524108	0.443433		0.472905	0.516225										
0.019161				-0.01268			-0.003843			-22.55398			5.5152937				-0.08067			0.04332											
-306.07%				202.48%			61.38%			90.85%			-22.22%				-3229.25%			1734.02%											
										FA/R*360			ONCA/R*360				LD/A			ONCD/A			AP/A			AE/A			OCD/A		
										52.30264	49.99782		126.962689	106.7135			0.187165	0.16733		0.336943	0.276103		0.11021	0.112521	0.208305	0.201298	0.154391	0.202406		
										-2.304817			-20.249163				-0.01983			-0.06084			0.002311		-0.00701		0.048016			
										9.28%			81.57%				-793.93%			-2435.32%			92.52%		-280.48%		1921.98%			

Figure 4.21 The Influence of Factors



As we can see from the figure 4.20, due to tax rate and interest rate can't change, so there are three main factors which can impact on ROE and we continue to break down. We have introduced how to break down financial leverage before and only analyze it. Other non-current debts have a great impact on the negative absolute influence of financial leverage.

Next, we transform ROS to TC/R and separate it into COR/R, R&D/R and D&A/R, where TC/R is total costs divided by revenues, COR/R is costs of revenue divided by revenues, R&D/R is costs of research and development divided by revenues and D&A/R is costs of depreciation and administration divided by revenues. The negative absolute influence

of TC/R is mainly influenced by COR/R, which means the increase of total costs have a relationship with cost of goods sold. At the same time, it is easy to see research and development of costs and depreciation and amortization of costs decreased in 2010, which means that company has a good management on cost.

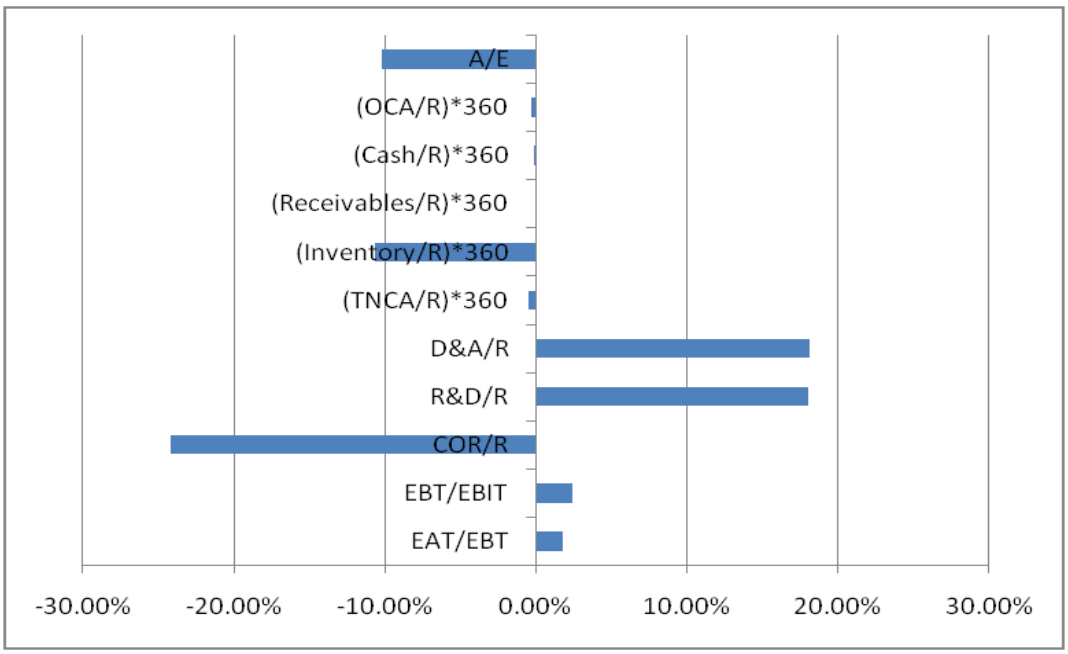
Finally, we transform assets turnover to A/R*360 and break down it into TNCA/R*360 and TCA/R*360, where A/R*360 is total asset divided by revenues and multiply by 360, TNCA/R*360 is total non-current assets divided by revenues and multiply by 360, TCA/R*360 is total current assets divided by revenues and multiply by 360. We are not difficult to see that TNCA/R*360 has a positive absolute influence and it is important factor for A/R*360, so we only separate it into FA/R*360 and ONCA/R*360, where FA/R*360 is fixed assets divided by revenues and multiply by 360, ONCA/R*360 is other non-current assets divided by revenues and multiply by 360. Both of them are positive and it is obvious that long-term assets cycles are getting shorter, at the same time current assets cycles are getting longer. There is no doubt that Boeing has a great utilization on assets.

4.2.3 Decomposition of Boeing from 2010 to 2011

Figure 4.22 Decomposition of Boeing from 2010 to 20011

1					ROE(Boeing) EAT/E										
					1.195589	1.143101									
					-0.05249										
					-5.25%										
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R				Assets turnover R/A				Financial leverage A/E			
0.733748	0.74504	0.897273	0.915464	0.078111	0.085706			0.937884	0.859338			24.7885	22.75562		
0.011292		0.018192		0.0075951				-0.0785459				-2.03288			
1.84%		2.46%		12.04%				-11.38%				-10.21%			
		1		TC/R				360		A/R*360					
		1	1	1.1955893	1.143101			1	1	566.8934	587.1674				
		0		-0.052488				0		20.274					
		0.00%		12.04%				0.00%		-11.38%					
COR/R		R&D/R		D&A/R				(TNCA/R)*360		(TCA/R)*360					
0.778745	0.788201	0.064084	0.057002	0.0566666	0.049582			156.7113	158.046992	227.1315	260.8802				
0.009456		-0.00708		-0.007085				1.335643		33.74866					
-24.17%		18.10%		18.11%				-0.43%		-10.95%					
								(Inventory/R)*360		(Receivables/R)*360		(Cash/R)*360		(OCA/R)*360	
								136.1322	168.857205	30.35362	30.34087	58.87662	59.03717	1.769042	2.644941
								32.72496		-0.01275		0.160551		0.875899	
								-10.62%		0.00%		-0.05%		-0.28%	

Figure 4.23 The Influence of Factors



According to the figure 4.22 and previous analysis, although the absolute influence of COR/R is negative, but the absolute influences of R&D/R and D&A/R are positive, which means that with the increase of the scale of production, total cost still decreased due to the reduction of other two costs. We make sure that cost of management is perfect.

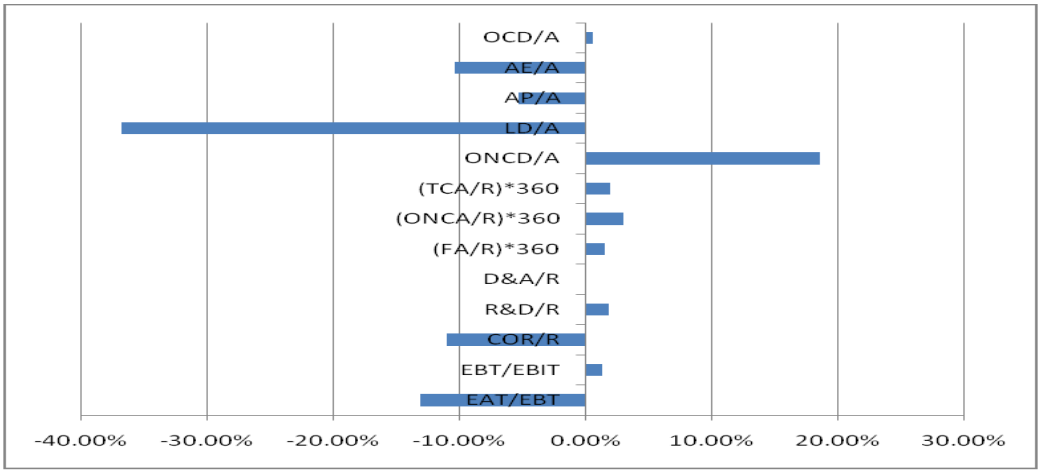
In the figure 4.23, about assets turnover, due to absolute influence of TNCA/R*360 is very small, so we only decompose TCA/R*360 into Inventory/R*360, Receivables/R*360, Cash/R*360 and OCA/R*360. Where Inventory/R*360 is inventory divided by revenues and multiply by 360, Receivables/R*360 is receivables divided by revenues and multiply by 360, Cash/R*360 is cash and equivalents divided by revenues and multiply by 360. Actually, it is obvious that Inventory/R*360 is the important factor, which means that many of orders are guaranteed by customers for production.

4.2.4 Decomposition of Boeing from 2011 to 2012

Figure 4.24 Decomposition of Boeing from 2011to 20012

						EAT/E													
						1.143101	0.664735												
						-0.47837													
						-47.84%													
Tax burden		Interest burden		ROS		Assets turnover								Financial leverage					
EAT/EBT		EBT/EBIT		EBIT/R		R/A								A/E					
0.74504	0.659898	0.915464	0.92735	0.085706	0.078007	0.8593379	0.919029							22.75562	15.15187				
-0.08514		0.011885		-0.007699		0.0596911								-7.60375					
-13.06%		1.31%		-9.21%		6.48%								-33.36%					
		1		TC/R		360		A/R*360						1/(1-D/A)					
		1	1	0.8947843	0.903914	1	1	418.927184	391.7178					22.75562	15.15187				
		0		0.0091301		0		-27.209394						-7.60375					
		0.00%		-9.21%		0.00%		6.48%						-33.36%					
COR/R		R&D/R		D&A/R		(TNCA/R)*360		(TCA/R)*360						NCD/A		CD/A			
0.788201	0.818049	0.040368	0.035452	0.0454968	0.045669	158.04699	139.1873	260.880192	252.5305					0.44004	0.427995	0.516015	0.506007		
0.029848		-0.00492		0.0001723		-18.85974		-8.3496527						-0.01204		-0.01001			
-10.95%		1.80%		-0.06%		4.49%		1.99%						-18.22%		-15.14%			
				FA/R*360		ONCA/R*360				LD/A		ONCD/A		AP/A		AE/A		OCD/A	
				48.776897	42.56653	109.2701	96.62073			0.125247	0.100938	0.314793	0.327056	0.105093	0.101546	0.153014	0.146182	0.257908	0.258279
				-6.210371		-12.64937				-0.02431		0.012264		-0.00355		-0.00683		0.000372	
				1.48%		3.01%				-36.77%		18.55%		-5.37%		-10.33%		0.56%	

Figure 4.25 The Influence of Factors



As possible as we break down, COR/R has a big effect on ROS by 10.95% negatively, which means that there is normal phenomenon because with the increase of orders, company need more cost of goods sold. There is good news for Boeing because the cycles of total non-current assets and total current assets decreased, which means that the utilization on assets is effective. In other words, company makes full use of assets, especially other non-current assets.

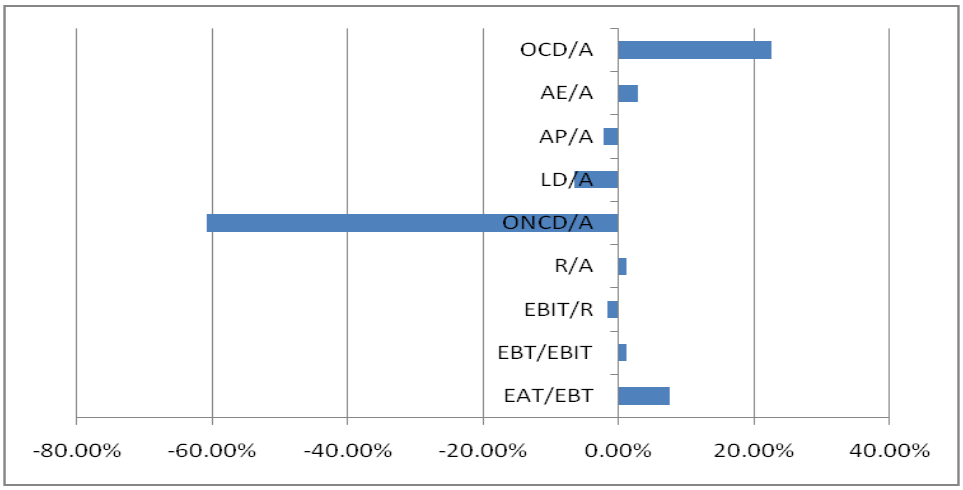
About financial leverage, the reduction of long-term debts and accrued expenses has a great impact on it by negatively.

4.2.5 Decomposition of Boeing from 2012 to 2013

Figure 4.26 Decomposition of Boeing from 2012 to 2013

					ROE(Boeing) EAT/E														
					0.664735	0.3082353													
					-0.3565														
					-35.65%														
Tax burden EAT/EBT				Interest burden EBT/EBIT				ROS EBIT/R				Assets turnover R/A				Financial leverage A/E			
0.659898	0.735719			0.92735	0.941674			0.0780068	0.0764			0.919029	0.934818			15.1518664	6.229445		
0.07582				0.014324				-0.001607				0.0157886				-8.922421			
7.64%				1.14%				-1.55%				1.27%				-44.15%			
																1/(1-D/A)			
																15.1518664	6.229445		
																-8.922421			
																-44.15%			
												NCD/A					CD/A		
												0.4279945	0.283846				0.506007	0.555626	
												-0.144149					0.049619		
												-67.32%					23.17%		
								LD/A				ONCD/A				AP/A		AE/A		OCD/A	
								0.1009382	0.087111			0.3270563	0.196734			0.101546	0.096651	0.146182	0.152499	0.258279	0.306476
								-0.013827				-0.130322				-0.00489		0.006317		0.048197	
								-6.46%				-60.86%				-2.29%		2.95%		22.51%	

Figure 4.27 The Influence of Factors



As we can see from the figure 4.26, financial leverage has a negative effect on ROE by 44.15%. The main reason is non-current debts, what's more is other non-current debts, which means that the risk of non-current debts is lower and company increased more equity to undertake this risk. The company is becoming better and better.

4.3 Comparison between Boeing and Airbus over time

In this analysis, we analyze which factor is important for good situation by comparing Boeing and Airbus' ratios of every year in pyramidal decomposition. At the same time, an influence figure is shown for letting us clearly know which factor has a big effect.

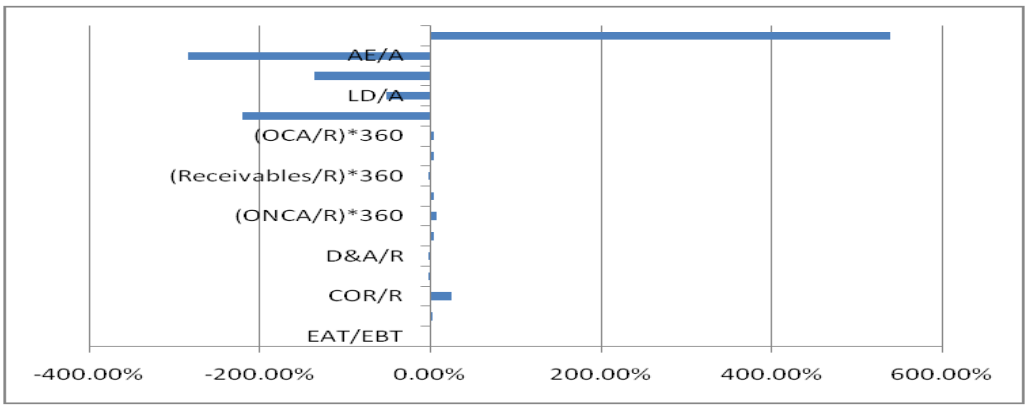
ratio	
fomula	
Airbus	Boeing
difference	
absolute influence	

4.3.1 Cross- section analysis of Boeing and Airbus (2008)

Figure 4.28 Decomposition of Boeing and Airbus in 2008

				ROE(2008) EAT/E															
				-0.0016	-1.08826														
				-1.08665															
				-108.67%															
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R			Assets turnover R/A						Financial leverage A/E						
-0.12644	0.681114	0.224494	0.843441	0.011142	0.080364		0.457601	0.890208					11.077738	-26.4793					
0.807551		0.618947		0.069221			0.4326066						-37.55704						
1.02%		2.38%		20.16%			22.12%						-154.35%						
		1		TC/R		360	A/R*360						1/(1-D/A)						
		1	1	1.002269	0.894689	1	1	786.71158	404.4001				11.077738	-26.4793					
		0		-0.10758		0		-382.3115					-37.55704						
		0.00%		20.16%		0.00%		22.12%					-154.35%						
COR/R		R&D/R		D&A/R		(TCA/R)*360		(TNCA/R)*360					NCD/A		CD/A				
0.869134	0.73363	0.081302	0.093584	0.051834	0.067475	388.1874	202.8596	398.52821	201.5405				0.3705988	0.596641	0.5391433	0.441124			
-0.1355		0.012282		0.015641		-185.328		-196.9878					0.2260426		-0.098019				
25.39%		-2.30%		-2.93%		10.72%		11.40%					-272.53%		118.18%				
(Inventory/R)*360		(Receivables/R)*360		(Cash/R)*360		(OCA/R)*360		FA/R*360		ONCA/R*360		LD/A	ONCD/A		AP/A		AE/A		OCD/A	
184.9738	104.7219	0	29.26283	125.5457	65.27518	77.66788	3.599655	118.84261	56.05547	279.6856	145.485	0.184193	0.2270505	0.1864054	0.369591	0.0005728	0.113221	0	0.236204	0.53857	0.091699
-80.2518		29.26283		-60.2705		-74.0682		-62.78714		-134.201		0.042857		0.1831855		0.1126486		0.236204		-0.44687	
4.64%		-1.69%		3.49%		4.29%		3.63%		7.77%		-51.67%		-220.86%		-135.82%		-284.78%		538.78%	

Figure 4.29 The Influence of Factors



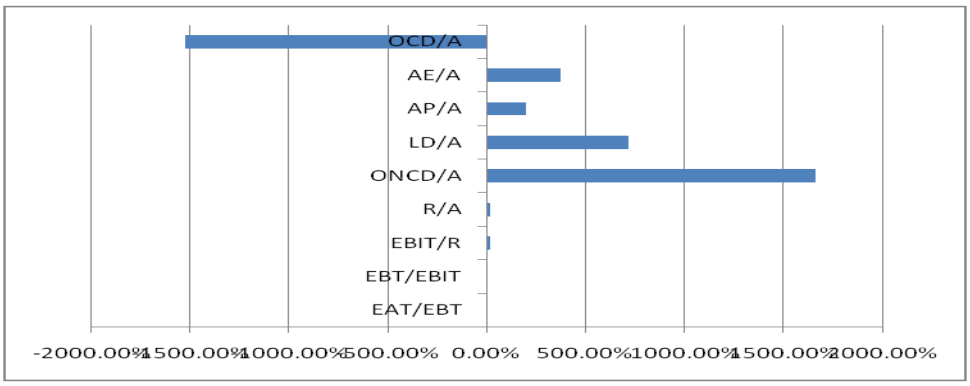
In the figure 4.29, it is obvious that the ROE of Boeing is by 108.67% lower than ROE of Airbus. Meanwhile, as we can see from the figure 4.16, we may conclude this difference resulted mainly from three ratios. OCD/A is the most important ratio which influences difference of ROE by 538.78% positively, AE/A also influences difference of ROE by 284.78% negatively and ONCD/A influences it by 220.86% negatively. On the basis of the results, other current debts of Boeing are lower than Airbus, which means Boeing bears smaller short-term interest. Accrued expenses of Boeing are higher, which means that Boeing undertakes a big amount of fees such as accrued wage, tax, interest and so on. Other non-current debts of Boeing are higher, which means that the long-term risk undertaken by Boeing is higher as well.

4.3.2 Cross- section analysis of Boeing and Airbus (2009)

Figure 4.30 Decomposition of Boeing and Airbus in 2009

				ROE(2009) EAT/E											
				0.039154	14.70925										
				14.6701											
				1467.01%											
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R		Assets turnover R/A		Financial leverage A/E							
0.622642	0.69836	0.585366	0.873036	0.020751	0.080243	0.500736	0.898021	10.338738	334.7986						
0.075718		0.28767		0.059493		0.397284		324.45989							
0.48%		2.16%		18.78%		20.10%		1425.50%							
								1/(1-D/A)							
								10.338738	334.7986						
								324.45989							
								1425.50%							
						NCD/A				CD/A					
						0.367844	0.524108			0.535442	0.472905				
						0.156264				-0.06254					
						2376.62%				-951.12%					
				LD/A		ONCD/A			AP/A		AE/A		OCD/A		
				0.140061	0.187165	0.227783	0.336943		-0.00111	0.11021	0	0.208305	1.0020718	0.1543907	
				0.047103		0.10916			0.111319		0.208305		-0.8476811		
				716.40%		1660.23%			200.50%		375.19%		-1526.82%		

Figure 4.31 The Influence of Factors



As the figure 4.30 shows, due to the absolute influence of financial leverage is very large, therefore we don't break down other factors and we only break down financial leverage.

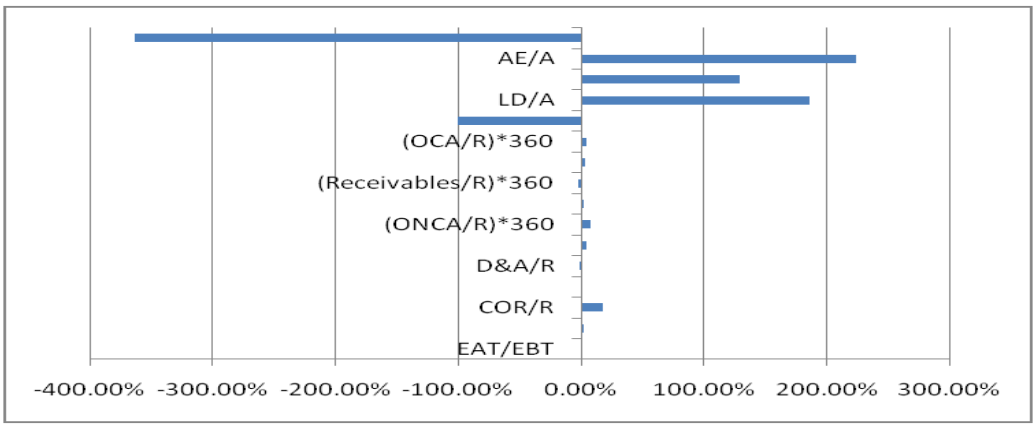
On the basis of the figure 4.31, there are three main ratios to influence ROE. ONCD/A is the most important ratio and it influences difference of ROE by 1660.23% positively, which means that other non-current debts of Boeing are higher and company needs to bear higher interest cost. OCD/A influences difference of ROE by 1526.82% negatively, which means that other current debts of Boeing are shorter and company lacks capital because current debts have lower interest costs. LD/A influences difference of ROE by 716.40% positively, there is no doubt that company still bears a relatively high long-term risk.

4.3.3 Cross- section analysis of Boeing and Airbus (2010)

Figure 4.32 Decomposition of Boeing and Airbus in 2010

				ROE(2010) EAT/E																	
				0.061863	1.195589																
				1.133727																	
				113.37%																	
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R				Assets turnover R/A								Financial leverage A/E					
0.677656	0.733748	0.662621	0.897273	0.026909	0.078111			0.5499937	0.937884							9.3089784	24.7885				
0.056092		0.234651		0.051202				0.38789								15.479525					
0.51%		2.37%		17.26%				18.57%								74.66%					
		1		TC/R		360		A/R*360								1/(1-D/A)					
		1	1	0.980945	0.899496	1	1	654.55294	383.8429							9.3089784	24.7885				
		0		-0.08145		0		-270.7101								15.479525					
		0.00%		17.26%		0.00%		18.57%								74.66%					
COR/R		R&D/R		D&A/R		(TCA/R)*360		(TNCA/R)*360								NCD/A		CD/A			
0.863954	0.778745	0.064235	0.064084	0.052756	0.056667	330.3978	227.1315	324.15518	156.7113							0.366417	0.443433	0.5261688	0.516225		
-0.08521		-0.00015		0.00391		-103.266		-167.4438								0.0770162		-0.009943			
18.06%		0.03%		-0.83%		7.08%		11.49%								85.73%		-11.07%			
(Inventory/R)*360		(Receivables/R)*360		(Cash/R)*360		(OCA/R)*360		FA/R*360		ONCA/R*360		LD/A		ONCD/A		AP/A		AE/A		OCD/A	
164.1526	136.1322	0	30.35362	98.74665	58.87662	67.49853	1.769042	105.64757	49.99782	218.5076	106.7135	0	0.1673303	0.366417	0.276103	-0.003053	0.112521	0	0.201298	0.529222	0.202406
-28.0203		30.35362		-39.87		-65.7295		-55.64975		-111.794		0.16733		-0.090314		0.1155743		0.201298		-0.32682	
1.92%		-2.08%		2.73%		4.51%		3.82%		7.67%		186.26%		-100.53%		128.65%		224.07%		-363.79%	

Figure 4.33 The Influence of Factors



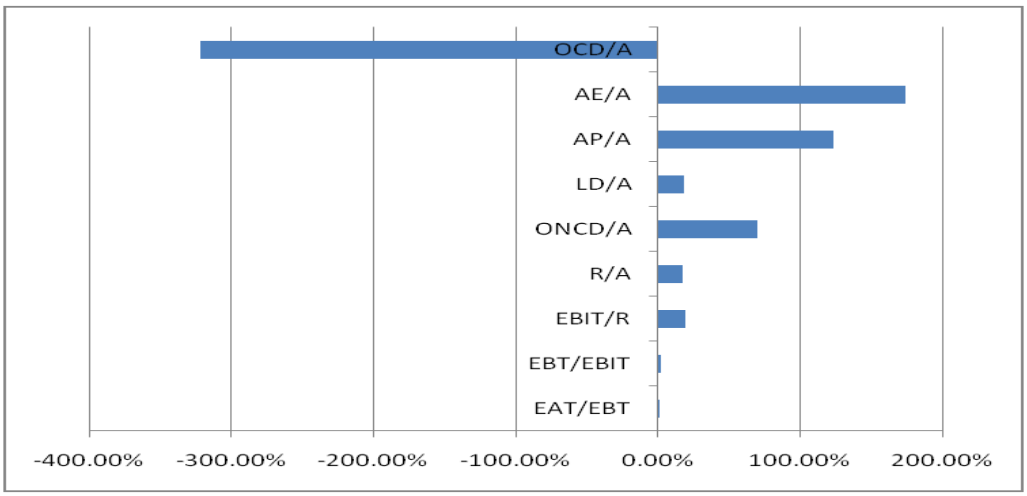
From the figure 4.33 to see that there are five main factors which influence difference of ROE. OCD/A, AE/A and LD/A, their absolute influences are same to previous, so we can suppose that they have the same effect with previous analysis. AP/A influences difference of ROE by 128.65% positively, which means that accounts payable of Boeing is higher and we can suppose that there is a little effect on company. ONCD/A influences difference of ROE by 100.53 negatively, we can conclude other non-current debts of Boeing are lower, which means that company can easily deal with long-term risk. Despite the influences of ROS and assets turnover are very small, but we still know that Boeing has the good management on assets and costs.

4.3.4 Cross- section analysis of Boeing and Airbus (2011)

Figure 4.34 Decomposition of Boeing and Airbus in 2011

				ROE(2011) EAT/E												
				0.116485	1.143101											
				1.026616												
				102.66%												
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R		Assets turnover R/A		Financial leverage A/E								
0.741828	0.74504	0.79271	0.915464	0.035764	0.085706	0.555268	0.859338	9.9747716	22.75562							
0.003212		0.122755		0.049942		0.30407		12.780847								
0.05%		1.81%		18.87%		17.73%		64.20%								
								1/(1-D/A)								
								9.9747716	22.75562							
								12.780847								
								64.20%								
						NCD/A				CD/A						
						0.362855	0.44004			0.536892	0.516015					
						0.077184				-0.02088						
						88.01%				-23.80%						
				LD/A		ONCD/A			AP/A		AE/A			OCD/A		
				0.109419	0.125247	0.253436	0.314793		-0.00348	0.105093	0	0.153014		0.5403715	0.2579076	
				0.015828		0.061356			0.108573		0.153014			-0.2824639		
				18.05%		69.96%			123.80%		174.47%			-322.07%		

Figure 4.35 The Influence of Factors



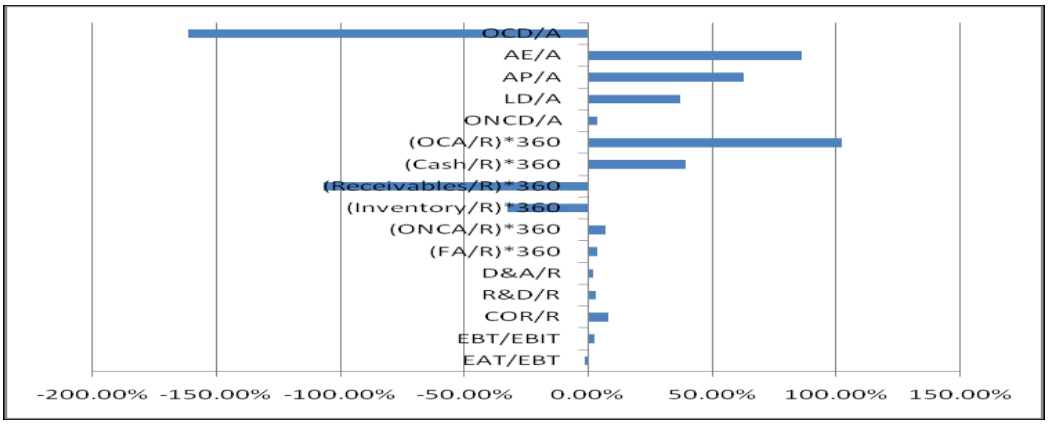
As we can see from these figures, there are three main ratios which influence difference of ROE. At the same time, we are easy to know that these ratios have the same results with analysis in 2010. Thus, we only analyze ONCD/A. ONCD/A is positive number and we can know that company issues some other non-current securities or something else, which means that a higher long-term risk is undertaken by Boeing.

4.3.5 Cross- section analysis of Boeing and Airbus (2012)

Figure 4.36 Decomposition of Boeing and Airbus in 2012

				ROE(2012) EAT/E																	
				0.114973	0.664735																
				0.549762																	
				54.98%																	
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R		Assets turnover R/A									Financial leverage A/E						
0.732283	0.659898	0.758076	0.92735	0.038209	0.078007	0.613113	0.919029								8.84103	15.151866					
-0.07238		0.169274		0.039798		0.305916									6.310837						
-1.14%		2.31%		13.20%		12.91%									27.69%						
		1		TC/R		360		A/R*360							1/(1-D/A)						
		1	1	0.970632	0.903914	1	1	587.16735	391.7178						8.84103	15.151866					
		0		-0.06672		0		-195.4496							6.310837						
		0.00%		13.20%		0.00%		12.91%							27.69%						
COR/R		R&D/R		D&A/R		(TCA/R)*360		(TNCA/R)*360							NCD/A		CD/A				
0.860152	0.818049	0.055636	0.040368	0.054845	0.045497	288.9109	252.5305	298.26129	139.1873						0.3587885	0.427995	0.5281025	0.506007			
-0.0421		-0.01527		-0.00935		-36.3804		-159.074							0.069206		-0.022095				
8.33%		3.02%		1.85%		2.40%		10.51%							40.67%		-12.99%				
(Inventory/R)*360		(Receivables/R)*360		(Cash/R)*360		(OCA/R)*360		FA/R*360		ONCA/R*360		LD/A			ONCD/A		AP/A		AE/A		OCD/A
147.9787	166.3487	0	59.74296	81.7049	59.74296	59.22724	1.727337	96.855832	42.56653	201.4055	96.62073	0.038059	0.1009382		0.3207291	0.327056	-0.004968	0.101546	0	0.146182	0.533071	0.258279
18.37		59.74296		-21.9619		-57.4999		-54.28931		-104.785		0.062879			0.0063272		0.1065138		0.1461821		-0.27479	
-32.73%		-106.44%		39.13%		102.44%		3.59%		6.92%		36.95%			3.72%		62.60%		85.91%		-161.49%	

Figure 4.37 The Influence of Factors



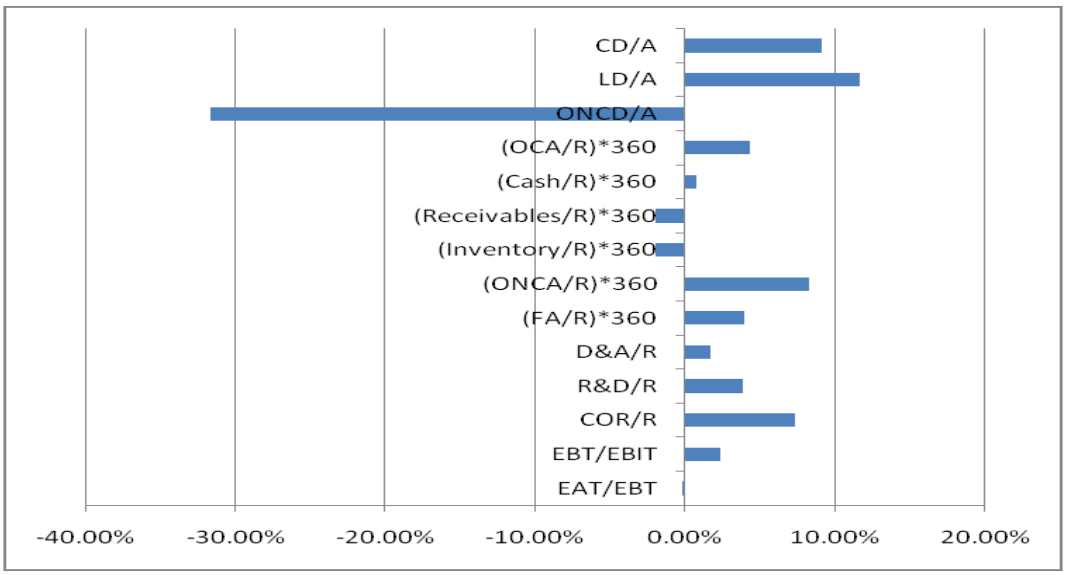
As we can see from the figure 4.36 and the figure 4.37, OCD/A, AE/A, AP/A and LD/A have same results with before. Thus, we only analyze other three ratios which influence difference of ROE. OCA/R*360 is 102.44% positively and we can know that company needs shorter days to operate other current assets for production. Cash/R*360 is 39.13% positively, which means the Boeing's capital of operation is better. Due to receivables of Airbus are zero, so Receivables/R*360 is 106.44% negatively, we can make sure that Boeing need more time to get cash from customers. About inventory, it is obvious that many of orders from customers use company to buy more materials and produce.

4.3.6 Cross- section analysis of Boeing and Airbus (2013)

Figure 4.38 Decomposition of Boeing and Airbus in 2013

				ROE(2013) EAT/E															
				0.133434	0.308235														
				0.174801															
				17.48%															
Tax burden EAT/EBT		Interest burden EBT/EBIT		ROS EBIT/R				Assets turnover R/A							Financial leverage A/E				
0.746043	0.735719	0.799118	0.941674	0.041751	0.0764			0.6350401	0.934818						8.4415772	6.229445			
-0.01032		0.142557		0.034649				0.2997775							-2.212132				
-0.18%		2.35%		12.87%				13.39%							-10.95%				
		1		TC/R		360		A/R*360							1/(1-D/A)				
		1	1	0.965826	0.90566	1	1	566.89335	385.1019						8.4415772	6.229445			
		0		-0.06017		0		-181.7915							-2.212132				
		0.00%		12.87%		0.00%		13.39%							-10.95%				
COR/R		R&D/R		D&A/R		(TCA/R)*360		(TNCA/R)*360							NCD/A		CD/A		
0.858894	0.824539	0.053331	0.035452	0.053601	0.045669	286.1345	270.4436	280.75889	114.6582						0.3609049	0.283846	0.5206338	0.555626	
-0.03436		-0.01788		-0.00793		-15.6908		-166.1007							-0.077059		0.0349925		
7.35%		3.82%		1.70%		1.16%		12.24%							-20.05%		9.11%		
(Inventory/R)*360		(Receivables/R)*360		(Cash/R)*360		(OCA/R)*360		FA/R*360		ONCA/R*360		LD/A			ONCD/A				
152.249	178.3397	0	27.20478	73.46767	63.41133	60.41776	1.487827	96.331553	42.49033	184.4273	72.1679	0.042398	0.0871114		0.3185065	0.196734			
26.09067		27.20478		-10.0563		-58.9299		-53.84122		-112.259		0.044713			-0.121772				
-1.92%		-2.00%		0.74%		4.34%		3.97%		8.27%		11.63%			-31.69%				

Figure 4.39 The Influence of Factors



In the figure 4.38, we didn't break down CD/A because we lack some relative data. As we can see from the figure 4.39, current debts undertaken by Boeing is higher, which means that Boeing is smart because a low interest loan is owned by company. Although long-term debts undertaken by Boeing are higher, but other non-current debts are lower, we can know that non-current debts by Boeing are lower as well. The ratios of current assets totally are positive, in other words, the days of current assets on hand are shorter. At the same time, total costs of Boeing is also lower because the reduction of costs is occurred by saving development cost, production cost and so on. There is no doubt that managements on assets and costs are made full use by Boeing.

5. Conclusion

According to the assessment of financial position, firstly with the reduction of total non-current assets in proportion of total assets and the increase of total current-assets in proportion of total assets, Boeing has a good management on total assets. At the same time, total assets increase year by year, it makes company more powerful. Then, the increase of inventory leads to an advantage which lots of orders are received by Boeing, we can make sure that it brings a good profit for Boeing because the control of costs is made full use by Boeing. Boeing is gradually trusted by the investors when its equity increases year by year.

According to the profitability assessment of Boeing, short-term debt-paying is guaranteed by itself. In terms of current assets, cash and equivalents and marketable securities are used to deal with short-term debts and they are kept reasonable, which means that company has perfect liquidity. In terms of liabilities and equity, the company's short-term debt under control is quite stable, due to long-term liabilities need to pay too much interest costs, so the company decided to transform it into equity to reduce these costs. In fact, Boeing achieved the separation of risk because long-term debt-paying is also guaranteed. In terms of operating cycle, due to a good management on assets, so the company needs shorter days than before to produce. About profitability, Boeing achieved a perfect operating model by maximizing profits and minimizing costs of production.

By comparing with Airbus and previous years, there is no doubt that the liquidity and the operating cycle of Boeing are better. We also know that the most important factor which influences changes of return on equity is financial leverage, in other words, company focused on management of liabilities to influence its return on equity. Despite the most important factor is financial leverage, but company also makes a great management on costs and assets to influence return on equity.

All of above conclusion show us that Boeing has grown a mature company.

List of Abbreviations

TC: Total cost

COR: Cost of revenue

R&D: Research & Development

D&A: Depreciation & Amortization

TNCA: Total Non-Current Assets

TCA: Total Current Assets

FA: Fixed assets

D: total liability

NCD: Total non-current liability

CD: Total current liability

OCA: Other current assets

ONCA: Other non-current assets

LD: Long-term debt

AP: Account payable

AE: Accrued expenses

OCD: Other current debts

Bibliography

[1] REES, Bill. Financial analysis.

[2] International financial statement analysis.

[3] DLUHOSOVA, D, T. TICHY and Z. ZMESKAL. Financial Models.

[4] FABOZZI, Frank and Pamela, PETERSON. Analysis of Financial Statements.

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Ostrava dated 7.5.2015

Haoyun Shen 沈浩云

Student's name and surname

List of Annexes

Annex

Annex 1: Balance sheet of Boeing

Assets [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Cash and Equivalents	4,599	5,778	5,359	10,049	10,341	9,088
Marketable Securities	4,486	4,221	5,158	1,223	3,217	6,170
Receivables	4,073	4,610	5,422	5,793	5,608	6,546
Inventories	14,575	20,130	24,317	32,240	37,751	42,912
Current Deferred Income Taxes	40.4	36.3	31	29	28	14
Other Current Assets	460.6	428.4	285	476	364	344
Total Current Assets	28,234	35,203	40,572	49,810	57,309	65,074
Gross Fixed Assets	20,021	21,109	22,253	23,306	24,305	25,294
Accumulated Depreciation	-12,219	-12,801	-13,322	-13,993	-14,645	-15,070
Net Fixed Assets	7,802	8,308	8,931	9,313	9,660	10,224
Intangibles	3,096	3,075	2,979	3,044	3,111	3,052
Cost in Excess	4,831	4,877	4,937	4,945	5,035	5,043
Non-Current Deferred Income Taxes	4,383	4,597	4,031	5,892	6,753	2,939
Other Non-Current Assets	1,857	1,786	1,603	1,643	1,792	1,500
Total Non-Current Assets	28,050	28,476	27,993	30,176	31,587	27,589
Total Assets	56,284	63,679	68,565	79,986	88,896	92,663

Liabilities [+]		in Millions of Dollars				
	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Accounts Payable	6,373	7,018	7,715	8,406	9,027	8,956
Short Term Debt	1,777	1694.2	948	2,353	1,436	1,563
Accrued Expenses	13,295	13,265	13,802	12,239	12,995	14,131
Accrued Liabilities	13,295	13,265	13,802	12,239	12,995	14,131
Deferred Revenues	10,204	13,455	-	-	16,672	20,027
Other Current Liabilities	23768.4	19657.8	12,323	18,276	4,852	542
Total Current Liabilities	24,828	30,114	35,395	41,274	44,982	51,486
Long Term Debt	12,779	11,918	11,473	10,018	8,973	8,072
Deferred Income Tax	-	-	418	-	-	-
Other Non-Current Liabilities	20,312	21,041	18,417	25,086	28,974	18,108
Minority Interest	72.4	81.1	96	93	100	122
Total Non-Current Liabilities	33,582	33,375	30,404	35,197	38,047	26,302
Total Liabilities	58,410	63,489	65,799	76,471	83,029	77,788
Common Shareholder's Equity	-2,126	190	2,766	3,515	5,867	14,875
Total Equity	-2,126	190	2,766	3,515	5,867	14,875
Total Liabilities & Shareholder's Equity	56,284	63,679	68,565	79,986	88,896	92,663

Annex 2: Income statement of Boeing

Income [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Operating Revenue	50,105	57,185	64,306	68,735	81,698	86,623
Adjustments to Revenue	N/A	N/A	N/A	N/A	N/A	N/A
Cost of Revenue	36,758	43,437	50,078	54,177	66,833	71,424
Gross Operating Profit	11,718	12,076	12,463	12,868	13,054	13,355
Selling/General/Admin Expense	-3,381	-3,460	-3,644	-3,408	-3,717	-3,956
Research & Development	-4,689	-4,390	-4,121	-3,918	-3,298	-3,071
EBITDA (Operating Income Before Depreciation)	5,627	6,238	6,769	7,566	8,184	8,462
Depreciation & Amortization	-1,629	-1,672	-1,765	-1,690	-1,811	-1,844
Operating Income	3,999	4,566	5,004	5,876	6,373	6,618
Other Income, Net	83.2	73.1	52	47	62	56
Total Income Before Interest Expense (EBIT)	4,027	4,589	5,023	5,891	6,373	6,618
Interest Expense	-630.4	-582.6	-516	-498	-463	-386
Income Before Tax	3,396	4,006	4,507	5,393	5,910	6,232
Income Taxes	-1,083	-1,208	-1,196	-1,382	-2,007	-1,646
Net Income from Continuing Operations	2,313	2,798	3,311	4,011	3,903	4,586
Net Income from Discontinued Operations	5.55E-17	-	-4	7	-3	-1
Net Income from Total Operations	2,313	2,798	3,307	4,018	3,900	4,585
Normalized Income	2,290	2,778	3,305	3,987	3,899	4,566
Special Income/Charges	23.2	19.6	6	24	4	20
Total Net Income	2,313	2,798	3,307	4,018	3,900	4,585

Annex 3: Cash flow statement of Boeing

Cash Flow(in Millions of Dollars)						
	12/2013	12/2012	12/2011	12/2010	12/2009	12/2008
Net Income	4585	3900	4018	3307	1312	1282.7
Depreciation	1844	1811	1457	1510	1459	1294.9
Amortization	-	-	15	19	12	-
Amortization of Intagibles	-	-	203	217	207	-
Operating Gains/Losses	-19	1	-35	-	60	-33.6667
Decrease in Receivables	566	-27	-292	8	-391	-590.9
Decrease in Inventories	-5562	-5681	-10012	-7387	-1525	-4123
Increase in Payables	-298	1199	1164	313	1141	1301.4
Increase in Other Current Liabilities	5956	1978	3410	906	647	-927.6
Decrease in Other Working Capital	416	3411	3595	3126	2038	3404.9
Other Non-Cash Items	691	916	500	933	643	712.9
Net Cash from Continuing Operations	8179	7508	4023	2952	5603	2740.6
Cash from Operating Activities	8179	7508	4023	2952	5603	2740.6
Sale of Property, Plant, Equipment	51	97	94	63	27	41.8
Sale of Long Term Investments	-	-	69	206	1041	-
Purchase of Property, Plant, Equipment	-2238	-1710	-1713	-1127	-1186	-788.7
Acquisitions	-26	-124	-42	-932	-639	-962.8
Purchase of Long Term Investments	-	-	-6796	-15548	-2629	-
Other Investment Changes, Net	-140	-7	10757	12507	-408	8135.2
Cash from Investing Activities	-5154	-3757	2369	-4831	-3794	-2539.6
Issuance of Debt	571	60	799	41	5961	4714.7
Issuance of Capital Stock	1097	120	114	87	10	-376.5
Repayment of Debt	-1434	-2076	-930	-689	-551	-190.1
Repurchase of Capital Stock	-2801	-	-	-	-50	-2801
Payment of Cash Dividends	-1467	-1322	-1244	-1253	-1220	-1132.3
Other Financing Charges, Net	-215	-259	-439	-148	-56	-94.7
Cash from Financing Activities	-4249	-3477	-1700	-1962	4094	4001.5
Effect of Exchange Rate Changes	-29	18	-2	-15	44	37.1
Net Change in Cash	-1253	292	4690	-3856	5947	4239.6
Cash at Beginning of Year	10341	10049	5359	9215	3268	3152.4
Cash at End of Period	9088	10341	10049	5359	9215	7392
Foreign Sales	49031	44496	34344	-	-	27936.67
Domestic Sales	37592	37202	34391	-	-	33194

Annex 4: Vertical Common-size Analysis of Balance Sheet

Assets [+](%)	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Cash and Equivalents	13.70%	14.85%	7.82%	12.56%	11.63%	9.81%
Marketable Securities	3.04%	3.24%	7.52%	1.53%	3.62%	6.66%
Receivables	9.85%	9.32%	7.91%	7.24%	6.31%	7.06%
Inventories	20.78%	27.29%	35.47%	40.31%	42.47%	46.31%
Current Deferred Income Taxes	1.46%	1.56%	0.05%	0.04%	0.03%	0.02%
Other Current Assets	0.66%	0.59%	0.42%	0.60%	0.41%	0.37%
Total Current Assets	49.49%	56.85%	59.17%	62.27%	64.47%	70.23%
Gross Fixed Assets	37.99%	34.78%	32.46%	29.14%	27.34%	27.30%
Accumulated Depreciation	-22.61%	-20.62%	-19.43%	-17.49%	-16.47%	-16.26%
Net Fixed Assets	15.38%	14.16%	13.03%	11.64%	10.87%	11.03%
Intangibles	5.31%	4.64%	4.34%	3.81%	3.50%	3.29%
Cost in Excess	8.14%	6.96%	7.20%	6.18%	5.66%	5.44%
Non-Current Deferred Income Taxes	7.03%	4.93%	5.88%	7.37%	7.60%	3.17%
Other Non-Current Assets	19.20%	12.47%	10.38%	8.73%	2.02%	1.62%
Total Non-Current Assets	50.51%	43.15%	40.83%	37.73%	35.53%	29.77%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Liabilities [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Accounts Payable	12.47%	11.44%	11.25%	10.51%	10.15%	9.67%
Short Term Debt	1.37%	1.14%	1.38%	2.94%	1.62%	1.69%
Accrued Expenses	21.97%				14.62%	15.25%
Accrued Liabilities	23.45%	20.66%	20.13%	15.30%	14.62%	15.25%
Deferred Revenues	24.68%				18.75%	21.61%
Other Current Liabilities	30.98%	19.75%	18.86%	22.85%	5.46%	7.35%
Total Current Liabilities	50.34%	52.99%	51.62%	51.60%	50.60%	55.56%
Long Term Debt	24.81%	19.69%	16.73%	12.52%	10.09%	8.71%
Deferred Income Tax		1.33%				
Other Non-Current Liabilities	28.56%	22.40%	27.47%	31.36%	32.59%	19.54%
Minority Interest	0.16%	0.16%	0.14%	0.12%	0.11%	0.13%
Total Non-Current Liabilities	54.75%	43.58%	44.34%	44.00%	42.80%	28.38%
Total Liabilities	105.09%	96.57%	95.97%	95.61%	93.40%	83.95%
Common Shareholder's Equity	-5.09%	3.43%	4.03%	4.39%	6.60%	16.05%
Total Equity	-5.09%	3.43%	4.03%	4.39%	6.60%	16.05%
Total Liabilities & Shareholder's Equity	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Annex 5: Vertical Common-size Analysis of Income Statement

Income [+](%)	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Net Sales or Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	71.51%	75.97%	79.13%	81.09%	83.91%	84.50%
Gross Profit	28.49%	24.03%	20.87%	18.91%	16.09%	15.50%
Research & Development Expenses	11.85%	9.01%	6.99%	5.70%	4.04%	3.55%
Selling & Administrative & Depr. & Amort. Expenses	5.07%	4.79%	4.59%	4.52%	4.22%	4.30%
Income before Depreciation & Amortization	11.11%	9.89%	9.03%	8.50%	7.72%	7.58%
Non-Operating Income	0.09%	0.08%	0.08%	0.07%	0.08%	0.06%
Interest Expense	2.03%	1.52%	1.16%	0.91%	0.67%	0.53%
Pretax Income	9.64%	8.79%	8.19%	7.85%	7.23%	7.19%
Provision for Income Tax	2.66%	2.46%	2.31%	2.01%	2.46%	1.90%
Income Before Extraordinaries & Disc.Operation	6.98%	6.33%	5.88%	5.84%	4.78%	5.29%
Extras Items & Discontinued Operations	0.04%	0.02%	0.01%	0.01%	0.00%	0.00%
Net Income	7.02%	6.36%	5.89%	5.85%	4.77%	5.29%

Annex 6: Balance sheet of Airbus

Assets [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Cash and Equivalents	3,169	4,822	6,733	6,848	11,555	10,671
Marketable Securities	12,599	11,099	10,066	8,013	5,362	5,948
Receivables	0	0	0	0	0	0
Inventories	23,233	25,327	27,926	29,241	30,639	34,440
Other Current Assets	2,182	2,327	2,292	2,920	2,700	2,850
Total Current Assets	48,756	51,719	56,208	55,747	59,819	64,726
Gross Fixed Assets	27,574	30,941	34,951	36,692	41,072	44,713
Accumulated Depreciation	-12,647	-14,696	-16,977	-18,360	-21,018	-22,922
Net Fixed Assets	14,927	16,244	17,973	18,333	20,054	21,791
Intangibles	0	0	15,125	16,517	0	0
Non-Current Deferred Income Taxes	5,934	5,849	5,689	5,596	5,981	5,277
Other Non-Current Assets	892	1,154	1,478	1,624	1,867	2,272
Total Non-Current Assets	50,055	52,848	55,146	58,914	61,755	63,510
Total Assets	98,810	104,566	111,354	114,660	121,573	128,236

Liabilities [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Accounts Payable	56.6	-116	-340	-399	-604	-847
Short Term Debt	3,074	2,799	-	2,810	1,680	2,261
Current Deferred Income Taxes	-	-	-	-	-	-
Other Current Liabilities	53,508	55,831	58,931	59,150	63,127	65,350
Total Current Liabilities	53,273	55,989	58,591	61,560	64,203	66,764
Long Term Debt	18,200	14,646	-	12,546	4,627	5,437
Deferred Income Tax	1,058	1,254	1,600	1,352	1,982	2,044
Other Non-Current Liabilities	32,719	33,549	39,075	27,688	36,988	38,741
Minority Interest	127.1	107	127	19	22	59
Capital Lease Obligations	225.5	224	-	222	222	219
Preferred Securities of Subsidiary Trust	-	-	-	-	-	-
Preferred Equity Outside Shareholders'	-	-	-	-	-	-
Total Non-Current Liabilities	36,619	38,464	40,802	41,605	43,619	46,281
Total Liabilities	89,890	94,452	99,392	103,165	107,822	113,045
Preferred Shareholder's Equity	-	-	-	-	-	-
Common Shareholder's Equity	8,920	10,114	11,962	11,495	13,751	15,191
Total Equity	8,920	10,114	11,962	11,495	13,751	15,191
Total Liabilities & Shareholder's Equity	98,810	104,566	111,354	114,660	121,573	128,236

Annex 7: Income statement of Airbus

	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Operating Revenue	45,216	52,360	61,244	63,667	74,538	81,435
Adjustments to Revenue	N/A	N/A	N/A	N/A	N/A	N/A
Cost of Revenue	39,298	45,340	52,912	54,799	64,114	69,944
Gross Operating Profit	5,917	7,020	8,331	8,868	10,423	11,490
Selling/General/Admin Expense	-2,344	-2,752	-3,231	-3,407	-4,088	-4,365
Research & Development	-3,676	-3,805	-3,934	-4,085	-4,147	-4,343
EBITDA (Operating Income Before Depreciation)	2,286	3,072	3,765	4,719	5,557	6,105
Operating Income	2,286	3,072	3,765	4,719	5,557	6,105
Interest Income	627.2	552	423	489	313	231
Other Income, Net	-	-	286	-	-	-
Total Income Before Interest Expense (EBIT)	504	1,087	1,648	2,277	2,848	3,400
Interest Expense	-390.7	-450.5	-556	-472	-689	-683
Income Before Tax	113	636	1,092	1,805	2,159	2,717
Income Taxes	-91.9	-212.5	-327	-461	-578	-690
Minority Interest	-40.8	-29.5	-25	5	1	14
Net Income from Continuing Operations	-14	396	740	1,339	1,581	2,027
Net Income from Discontinued Operations	-	-	-	-	-	-
Net Income from Total Operations	-14	396	740	1,339	1,581	2,027
Normalized Income	-14	396	740	1,339	1,581	2,027
Other Gains	40.8	29.5	25	-5	-1	-14
Total Net Income	31	429	766	1,339	1,580	2,013

Annex 8: Horizontal Common-size Analysis of Balance Sheet

Assets [+](in millions of dollars)	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Cash and Equivalents	100.00%	124.66%	58.16%	187.52%	102.91%	87.88%
Marketable Securities	100.00%	122.42%	256.87%	23.71%	263.04%	191.79%
Receivables	100.00%	108.77%	93.73%	106.84%	96.81%	116.73%
Inventories	100.00%	151.01%	143.61%	132.58%	117.09%	113.67%
Current Deferred Income Taxes	100.00%	122.95%	3.21%	93.55%	96.55%	50.00%
Other Current Assets	100.00%	102.76%	77.45%	167.02%	76.47%	94.51%
Total Current Assets	100.00%	132.08%	115.02%	122.77%	115.06%	113.55%
Gross Fixed Assets	100.00%	105.25%	103.12%	104.73%	104.29%	104.07%
Accumulated Depreciation	100.00%	104.85%	104.12%	105.04%	104.66%	102.90%
Net Fixed Assets	100.00%	105.84%	101.67%	104.28%	103.73%	105.84%
Intangibles	100.00%	100.31%	103.55%	102.18%	102.20%	98.10%
Cost in Excess	100.00%	98.34%	114.31%	100.16%	101.82%	100.16%
Non-Current Deferred Income Taxes	100.00%	80.74%	131.65%	146.17%	114.61%	43.52%
Other Non-Current Assets	100.00%	74.65%	91.97%	98.13%	25.67%	83.71%
Total Non-Current Assets	100.00%	98.23%	104.54%	107.80%	104.68%	87.34%
Total Assets	100.00%	114.98%	110.49%	116.66%	111.14%	104.24%

Liabilities [+]	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Accounts Payable	100.00%	105.43%	108.72%	108.96%	107.39%	99.21%
Short Term Debt	100.00%	95.36%	134.09%	248.21%	61.03%	108.84%
Accrued Expenses	100.00%					108.74%
Accrued Liabilities	100.00%	101.32%	107.64%	88.68%	106.18%	108.74%
Deferred Revenues	100.00%					120.12%
Other Current Liabilities	100.00%	73.32%	105.48%	141.35%	26.55%	140.33%
Total Current Liabilities	100.00%	121.04%	107.64%	116.61%	108.98%	114.46%
Long Term Debt	100.00%	91.26%	93.91%	87.32%	89.57%	89.96%
Deferred Income Tax						
Other Non-Current Liabilities	100.00%	90.18%	135.49%	133.19%	115.50%	62.50%
Minority Interest	100.00%	113.58%	98.97%	96.88%	107.53%	122.00%
Total Non-Current Liabilities	100.00%	91.51%	112.43%	115.76%	108.10%	69.13%
Total Liabilities	100.00%	105.66%	109.80%	116.22%	108.58%	93.69%
Common Shareholder's Equity	100.00%	-77.43%	129.98%	127.08%	166.91%	253.54%
Total Equity	100.00%	-77.43%	129.98%	127.08%	166.91%	253.54%
Total Liabilities & Shareholder's Equity	100.00%	114.98%	110.49%	116.66%	111.14%	104.24%

Annex 9: Horizontal Common-size Analysis of Income Statement

Income [+](%)	12/2008	12/2009	12/2010	12/2011	12/2012	12/2013
Net Sales or Revenue	100.00%	120.68%	117.14%	112.44%	118.86%	106.03%
Cost of Goods Sold	100.00%	128.22%	122.01%	115.22%	122.99%	106.76%
Gross Profit	100.00%	101.76%	101.73%	101.89%	101.12%	102.19%
Research & Development Expenses	100.00%	91.73%	90.99%	91.63%	84.18%	93.12%
Selling & Administrative & Depr. & Amort. Expenses	100.00%	114.05%	112.32%	110.60%	110.91%	108.04%
Income before Depreciation & Amortization	100.00%	107.47%	106.95%	105.85%	107.99%	103.98%
Non-Operating Income	100.00%	112.16%	110.84%	102.17%	131.91%	90.32%
Interest Expense	100.00%	90.58%	89.60%	88.05%	88.02%	83.67%
Pretax Income	100.00%	110.07%	109.15%	107.73%	109.59%	105.45%
Provision for Income Tax	100.00%	111.47%	110.29%	97.71%	145.22%	82.01%
Income Before Extraordinaries & Disc.Operation	100.00%	109.53%	108.70%	111.68%	97.31%	117.50%
Extras Items & Discontinued Operations	100.00%	76.47%	69.23%	77.78%	-42.86%	33.33%
Net Income	100.00%	109.35%	108.55%	111.59%	97.06%	117.56%